California Institute of the Arts

Empowering the Negative Space in Technology

by
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Abstract

The purpose of this thesis is to discuss the role of technology and discovers how technology can benefit creative processes without overpowering non-digital media. By exploring four projects created by the author, This thesis stresses the importance of humanity when working with technology, and the two does not represent extreme opposites. Bun Bun and Cat includes three projects based on imaginary characters and friends, illustrated and presented with hand-drawn animation and old-school gameplay system. A Children's book in Augmented Reality is a collaborative project looking at the possibility of merging prints with Augmented Reality through a camera lens. Veggie kingdom is a group show which the author integrated non-digital formula into a technology-based project. Butterfly is a collection of art pieces demonstrating how technology can act as a bridge between art forms such as writing, audio recording, illustration, and zine making. All of the projects above showcased how the author uses technology as a shortcut to fuse various forms of art, and allow the author's voice to be heard audibly and visually.

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Introduction

Technology has played an awkward role in the lives of kids who grew up in my generation. Technology was presented long before I was born, but as I grow up, it has slowly become an element that human beings can't live without. People who grew up in a generation like mine went through the awkward transition between the decay of non-digital materials and new, booming technology. Technology can improve beyond imagination and will never stop evolving, but non-digital elements will never become utterly absent in the history of humanity. The value of traditional crafts not only comes from nostalgia, but the power of creating warmth within human interaction is something that is unlikely to be replaced by technology. Data-driven and technology-based content tend to lack affection, and usually cannot retrieve the warmth of feeling by human interaction. No technology can recreate the sensation of receiving a handwritten note that has traveled from the other side of the world.

We can dive into technology to retrieve the warming sensation. We can build a robot that becomes a life-long companion that does not have betrayal programmed in its system and customizes the way it would entertain us the most. While the perfect technology seems to resolve problems in humanity, I would still choose a stuffed animal over high-tech products.

Watching animations and listening to music are both extremely spiritual experiences to me. Before advanced technology like VR showed up, music by itself already had the power to bring a person into a different world. I had experienced countless times since childhood when my mind and body were taken to a different place, just by the stimulation of listening to my favorite songs. The only technology I had as a kid was a cassette player. Animation moved me the same way. Although animations are just a collection of 2D drawings flipping through a single plane, animations affect my emotions most deeply. Being a fan of animated stories, I also have brought myself to places that were unreachable in reality, and all I needed was my imagination that was inspired by the animations I saw. Animation and music can both create an immersive experience without the power of technology, but how do we take advantage of technology as a powerful resource to create an experience that is even better? I am eager to learn about technology because I want to explore the possibility of using technology to protect the value of non-technology.

After watching a film, everyone has a different takeaway walking out of the theater; good movies take viewers to another world. Technology can now create these scenes and become even more immersive than ever. Concentrate a film experience into an installation piece, but the interactivity using technology should not steer the art away from the primitive, tactile elements that have long been present in human interaction.

There is always an appreciation of technology for achieving things that couldn't be done before. Owning a robot that behaves just like a human – no matter how advanced the technology behind it – can never give me the same kind of warmth that I get from owning a lumpy stuffed animal that only sits still but somehow can generate all sorts of intimate feelings. Technology should not take away humanity. The coexistence of both digital and non–digital is what drives my creativity.

CHAPTER TWO

Inspiration

2.1
teamLab

 Based in Japan, teamLab is an Art collective formed in 2001 and have been expanding and showcasing immersive installation all over the world. While being well known for creating immersive digital experiences, teamLab also designs various interactive experience within their installation, and many of them include the use of non-digital media such as print graphics, drawings, and paintings. teamLab is a studio that utilizes a large number of skills in the digital world, and yet in my opinion still revolve their themes around humanity and therefore create the "warmth" sensation for audiences who participate.

Figure 1. Learn&Play! teamLab Future Park:
Graffiti Nature – Mountains and Valleys
(2017)

TeamLab takes inspiration from a wide range of materials, and examine the evolution of art media from print to digital while taking advantage of each medium's characteristic and find a perfect balance within today's art and culture. teamLab redefines what it means to work with "mixed media." Their work in full of experimentation and yet hugely successful with a convincing presentation. Recruiting talents from all fields and reaching out to professions all over the world, teamLab also set an example of creating immersive installations for all audiences,

Figure 2. Learn&Play! teamLab Future Park: Hirakata Park,Osaka, Japan (2016)

regardless of age, gender, etc., even for viewers who have no interest in the artistic sense behind each installation. Although sometimes infused with educational purposes and storytelling, their installations nearly never depict hard science, extreme stats, or political voices, instead, their installations are an immersive experience for all. teamLab: Dance! Art Exhibition, Learn & Play! Future Park is a large scale exhibition based on the idea of stimulating a "future park." Hence creating a playground suitable for both adults and children. The exhibition is formed by several different installations, and among all my favorites are Sketch Aquarium and Sketch Town.

Figure 3. Sketch Town. teamLab, Interactive Digital Installation (2014)

Without compromising the value of traditional print media, these installations are still able to round up the experience by cultivating the pros from analog and digital media. I especially appreciate that they let children start with coloring on paper, instead of jump straight into digital platform, as drawings can now be done on digital drawing pads.

Besides having stunning visuals using digital media, teamLab uses technology to create interactivities and connect participants through the power of technology. There are creativity contributed by various artists – visuals and audios – and technology serves as a line connecting all these creative dots and tieing them all into one piece. (and that's What I wish for myself in my work, to patch what I can do as a visual artist and design into a more significant piece using the power of technology, but always remain elements that I have throughout my artistic evolution. I am blown away by tech and am excited to use them in my art, but I would still love to have all the traditional art form that used to bring so much joy and emotion into my life – illustration, painting, paper, physical models…)

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2.2
Friends
With You

Friends with you is an art collective with the sole purpose of spreading the positive message of Magic, Luck, and Friendship, inspired by the pure happiness found in everyday life. They recently started to dive into the world of technology and begin to create virtual reality experiences, and also recently teamed up with multiple studios to create an animated series on Netflix, Ture and the Rainbow Kingdom. Stated that "Cute is the new Punk," the two founders of FWY keep the same aesthetic across all forms of art mediums including painting, sculpture, large-scale experimental installations and live performances, their simple, playful and straightforward cuteness. Many FWY sculptures and installations were created under the context of them being a playground, which traces back to the core that they expect their art to be accessible to all, and can connect each other by strengthening the power of joyfulness.

Figure 4. Friends With You, RAINBOW CITY NYC (2011)

FWY speaks to me for many reasons – their success in blurring the line between low and high art, their sincere appreciation of cuteness, their influences from the pop culture and their passions in traditional print media as illustrators and print designers. This collective started as something that was undoubtedly heavily relying on the conventional form of art, but as the collective evolves they work with collaborators from other fields such as music and tv industry to expand their work environment to something more than pictures on a 2D plane. FWY has a distinguished style that they successfully carry everywhere with them regardless of the medium – whether in 2D or 3D spaces – and like everything that generated their passion in art, their work is full of warmth, joy, and content, and most of the time bring smiles to their audiences

Figure 5. RAINBOW CITY ART BASEL MIAMI – Stage, MIAMI, FL (2010)

Figure 6. RAINBOW CITY ART BASEL MIAMI, MIAMI, FL (2010)

Similar to TeamLab, FWY gathers what they appreciated in the art world and utilize their skills as artists designers to put all elements into one – A giant playground with a distinguished style of illustration, sculpture, lights, and colors. As the studio begin to grow, they have always co-operated with other companies that showcase their work with other forms of media. Their installation had accompanied several music festivals as part of the stage, and they are now producing their animation airing on Netflix.

Meanwhile, FWY is never heavily relied on the use of technology, and therefore their installation remains the same old tactile, fun, old school comfort of what a good old playground always does. The Immersive experience FWY are aiming to create the ones that are accessible to all, and for all to have fun.

Figure 7. Little Clouds by Friends With You

Figure 8. Super Moon by Friends With You on Seokchon Lake in Seoul, Korea (2016)t

2.3
Animal Crossing

Animal Crossing is a video game series developed and published by Nintendo with a theme centered on community and friendship building.

Figure 9. Animal Crossing New Leaf by Nintendo

Figure 10. Players and animal villagers in Animal Crossing

Besides having the players surrounded by anthropomorphic animals, the game simulates reality in many levels. The internal clocks technology tracks time inside the game based on the real passage of time and the time setting also triggers changes in seasons. While time passes – whether in hours or months, elements in the game do not stay constant. Leaf colors change, weathers change, different flower blooms, dynamics changes in species of bugs and fish that alter based on hours and seasons. Villagers move in and out, grocery store items rotate, and special events happen on holidays. The game observes details in real life that people often neglect but are affecting our lives on a daily basis. It did not involve complex technology like Virtual Reality, but with smart game designs and concepts, the game immerses players into the virtual world of Animal Crossing.

Aside from technical simulation like an internal clock, the amount of detail drawing from reality is amazingly accurate and realistic, including a wide range of interests that everyone can relate to, such as vinyl collection, interior design, urban planning, fashion, gardening, finance, etc..

In all of the animal crossing series, players start the game as a new villager moving into a new town. This experience, in particular, is exceptionally relatable when the player starts the game for the first time, figuring out the process, finding out tips and tricks, and becoming familiar with the gameplay.

Animal Crossing also focuses on the positivities. In-game activities and dialogues are mostly about the sense of unity, community, friendship, and helping each other out. Infused with the cuteness in character designs, thoughtful animations, and interactions between characters, Animal Crossing successfully triggers the sense of love and caring and thus make the experience of therapeutic.

Figure 11. Villagers in Animal Crossing

Figure 12. Customized players look and outfit

2.4 Conclusion

There is beauty in all forms of art, and even with the distinct difference in styles between various types of art, each audience finds rescue in pieces that lead their imagination and allow them to travel in their brain. I especially value the parts that are emphasizing on creating something for all. It is about unity– when all are welcome, but there are also elements of the piece that emphasizes individuality for each person to find connections and values. Most importantly, the experiences also let all participants enjoy, play, and recognize that it is each other's existences that fulfill the experience as a whole.

Bun Bun and Cat

3.1 Bun Bun Walk

Bun Bun Walk is an interactive installation. The installation was set up with a screen featuring main character Bun Bun's walk cycle looping infinitely. In front of the screen is a set of buttons powered by Arduino. Audiences interact with the animation by pressing the buttons displayed in front of the screen. By pressing buttons, audiences are triggering different frames of animation and a drum machine inspired sound effects feedback. Installation was presented during CalArts Music Technology MFA group show in Fall 2016. Materials and programs used included Adobe Animate CC, Actionscript 3, Arduino, Buttons. There are three pre-recorded drum sound samples: Kick, Snare, and Hi-Hat. The visual feedbacks that correspond with the sound effects are: kick drums triggered by Bun Bun kicks, snare and Hi-Hat triggered by left and right punches.

Figure 13. Main animation: Walk cycle loop in *Bun Bun Walk*

Bun Bun Walk was created as a prototype for a class project. In this project, I am exploring the possibility of composing an open-ended animation that is written through data in real time by utilizing simple animation walk cycle to make connections with electronics – Arduino and button controls, while the interactivity between the machine and the audiences also affect the outcome. The Style of illustration, story, and interactive experience are inspired by gameplay elements of the 90s game console and fighting games such as Street Fighters and King of Fighters. The installation only uses 2D animated sprites; hence the hardware design is also mimicking the gestures of using a game controller.
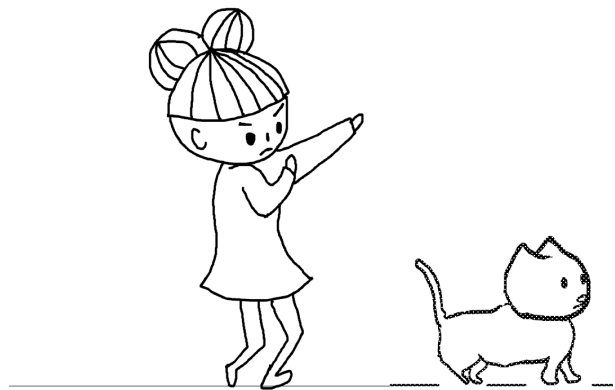
Figure 14. Different frames in *Bun Bun Walk* when Bun Bun's attack was triggered
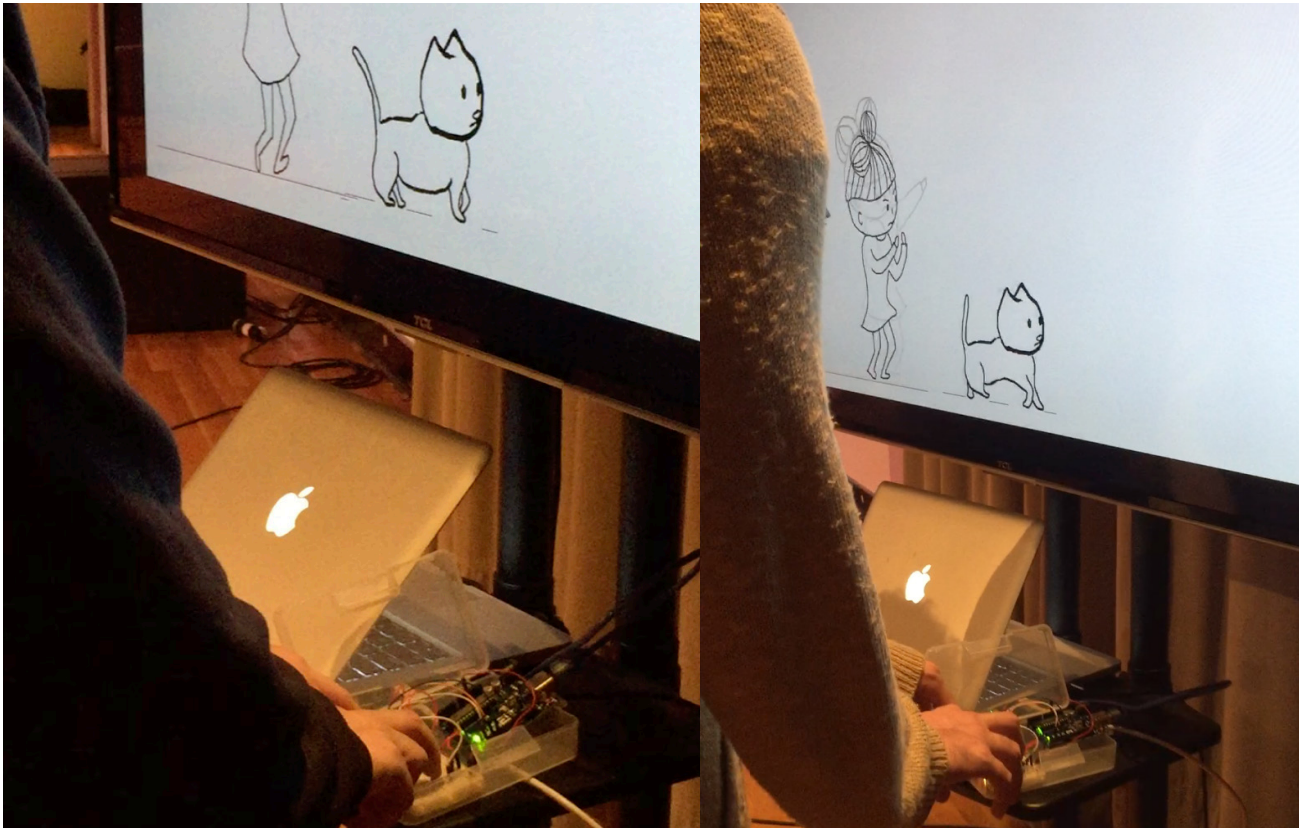
Figure 15. Audiences interacting with *Bun Bun Walk*

3.2 In Another Box

In Another Box is an installation presented in CalArts Digital Expo in Spring 2017, presented with a TV screen connected to a laptop running Arduino, Processing IDE, and an ultrasonic sensor is set up on top of the TV screen, collecting data based on the distance between the audiences and the installation.
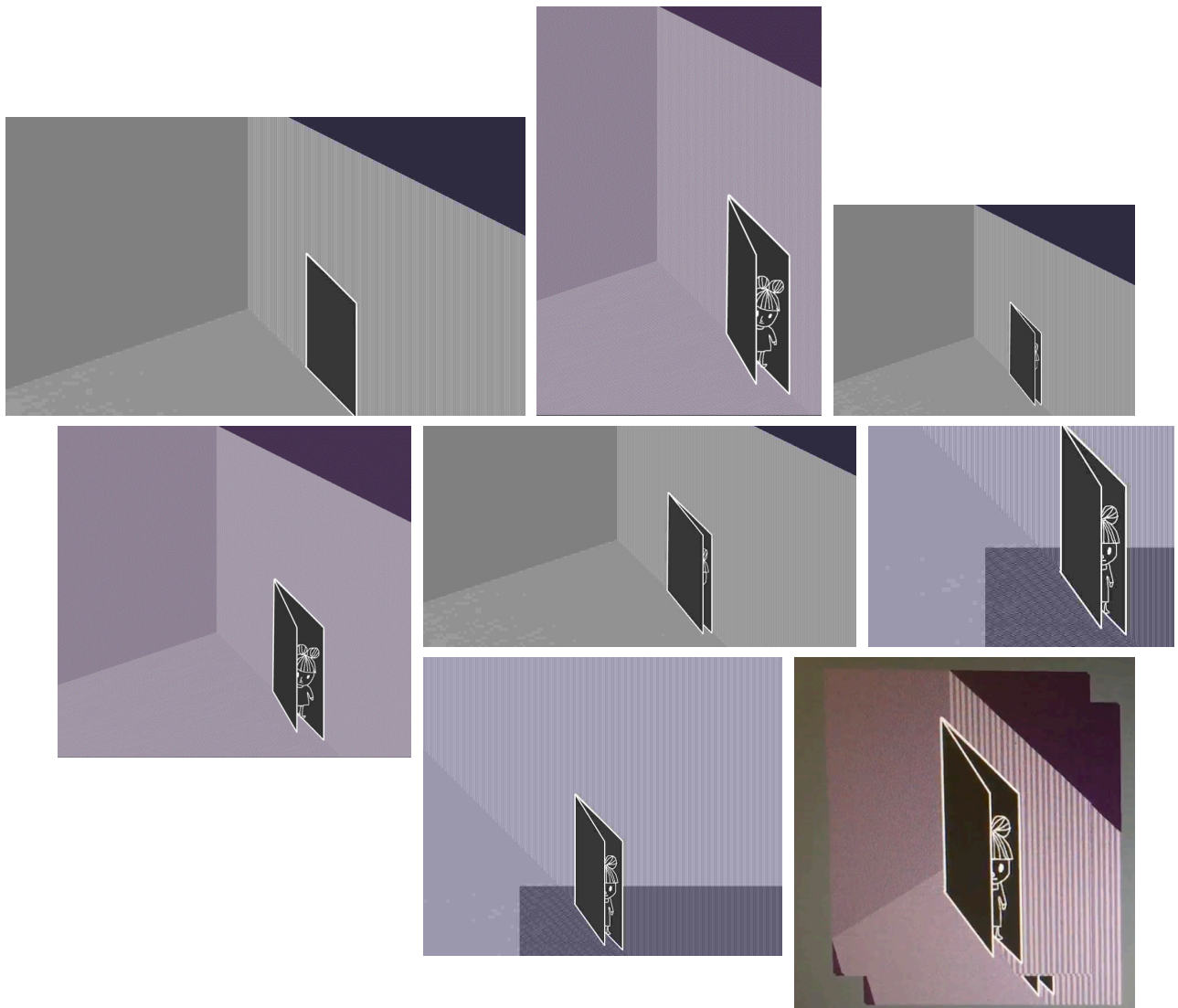
Figure 16. Frames in *In Another Box*
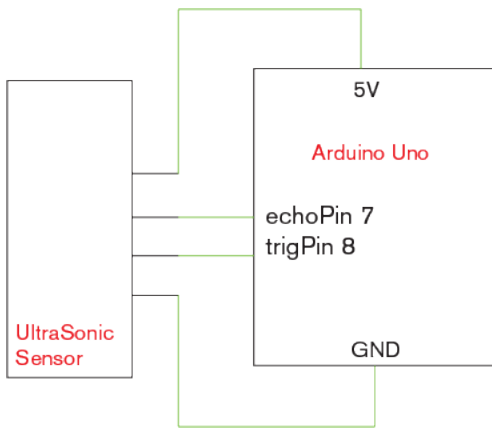
Figure 17. Circuit diagram used to *In Another Box* installation

Animated loop of main character Bun Bun peeking through a door, looking at the present state that changes every time she opens the door on top of a continually morphing background picturing a room in perspective using three planes. The room is floating in a universe, and the coordinate of the planes moves in a diagonal direction based on sensor data. The looped animation of Bun Bun coming out from the door stays constant, as the looping animation itself as an object changes it coordinate based on changes in sensor data as well. The purpose of its graphics is to create multiple dimensions and having Bun Bun checking her current state (seeking for truth) every time she looks out from the door. As all of these images move, the past state does not disappear right away, depicting the idea that multiple truths and dimensions can co-exist. Colors of this looping animation also change as the animation proceed, cycling through a color palette I curated.

In Another box is inspired by paradox "Schrodinger's cat." The gesture of Bun Bun peeping through the door is corresponding to the idea describes in the paradox of finding out the cat's state.

3.3 CUCU

A derivative project inspired by BunBunWalk and In Another Box, CUCU is an old school game control inspired animation with sound effects feedback. Animation of CUCU was drawn in Adobe Animate CC, using Arduino to control buttons, and coded in processing IDE. Full animation loops were drawn in Adobe animate CC, export as png sequences, and playback through processing IDE.
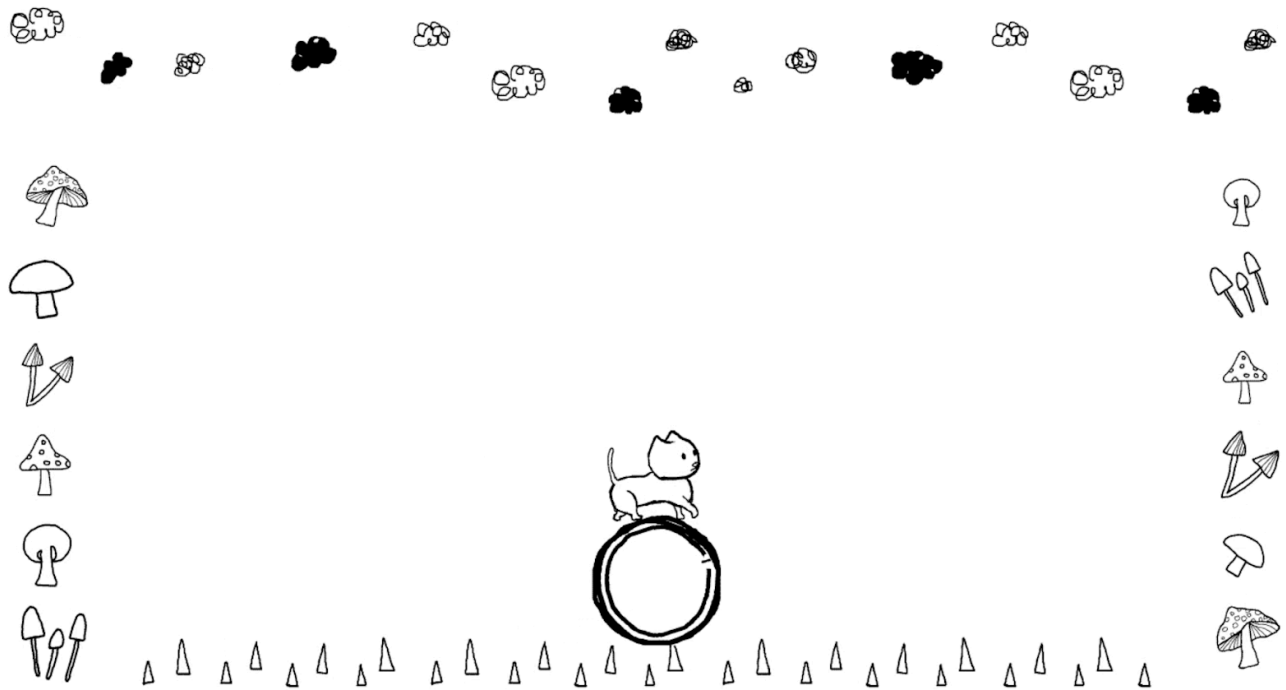
Figure 18. CUCU main gameplay stage

Most animation series often dedicate a special episode(s) featuring non-main characters or stories that branch out from the main plot. CUCU is the same idea- Bun bun's cat was created as a secondary visual support to add personality to my installation, and I wanted to make the cat into its installation by itself.

Instead of creating an ongoing animated loop that is constantly moving forward, and to differentiate CUCU from BunBun walk – a walk cycle that looked like the characters are always moving forward – the cat on a rolling wheel in CUCU is controlled by buttons, that are set up in a manner of an actual game controller that has four directions and a fire (sound distortion) command.
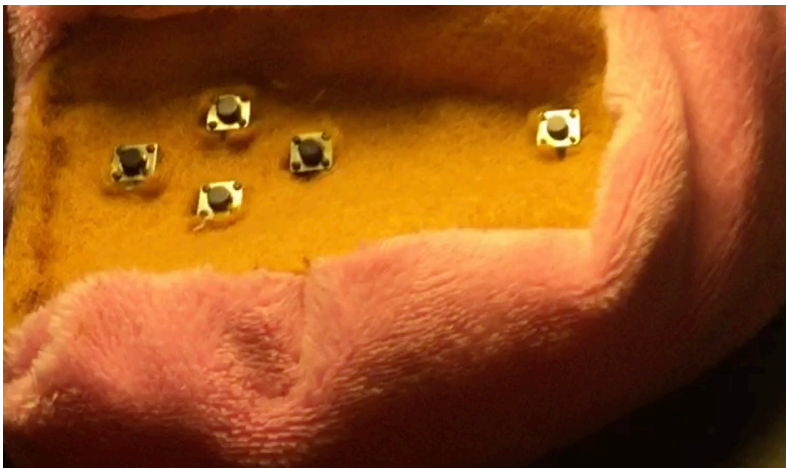
Figure 19. Buttons used when audiences control the cat on screen. (attached to a plush toy design)
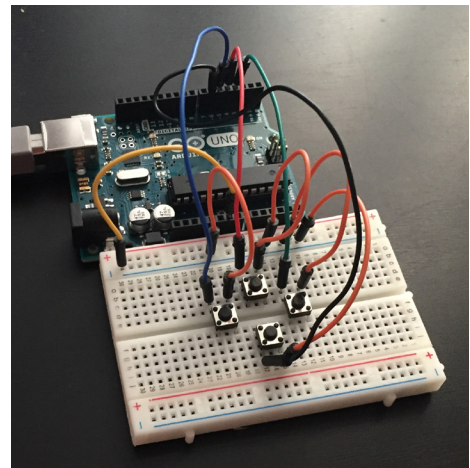
Figure 20. A prototype of buttons used when audiences control the cat on screen.

3.4 Characters
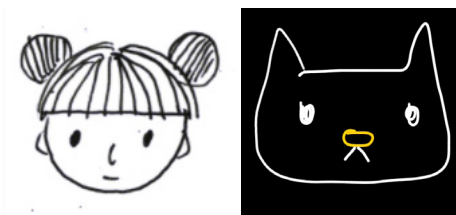
Figure 21. Bun Bun and Cat illustrations

Bun Bun and Cat are a self-portrait and an imaginary companion.

3.5 Conclusion

Although the order of each project development is listed as the following: Bun Bun Walk, In another box, CUCU. However, all three of these projects are all based on the same source – my self-portrait, an imaginary companion, and philosophical ideas taken from Schrodinger's cat. All three installations share the same aesthetic that feels the most natural for myself to create as a visual artist. The hand-drawn illustration was done in styles that are primitive to my drawing habit, and are animated using infinite loops. While technology is an essential element of my installations, I would like to emphasize the balance between itself and the non-technical parts of them. By engaging a hint of technology, I made my illustrations come to life and let the audience have some options interacting with the drawings. These installations are interactive but are not entirely relying on sensors or circuits. I still kept the arcade game inspired hardware such as buttons, so the experience remained tangible. Revolving around the theme of retro gameplay inspired systems, both software(illustration style, animated sprites) and hardware(game controller system, buttons), the technology of each project was meant to stop at where it was, I had no interest in pursuing turning this experience into a heavily technology-based project. I want to examine the imperfect of the technology and discuss how the imperfectness speak to the audiences as it may trigger some nostalgic sensations.

A Children's book
in Augmented Reality

4.1 Summary

This AR Children's book is an experimental project that hopes to integrate augmented reality (AR) with experience of reading a children's book. This project was created in collaboration with artist Dylan Alexander Freeman. The final stage of this project included a hand–bound pamphlet with example questions and a mobile beta app built with Unity and tested using TestFlight.
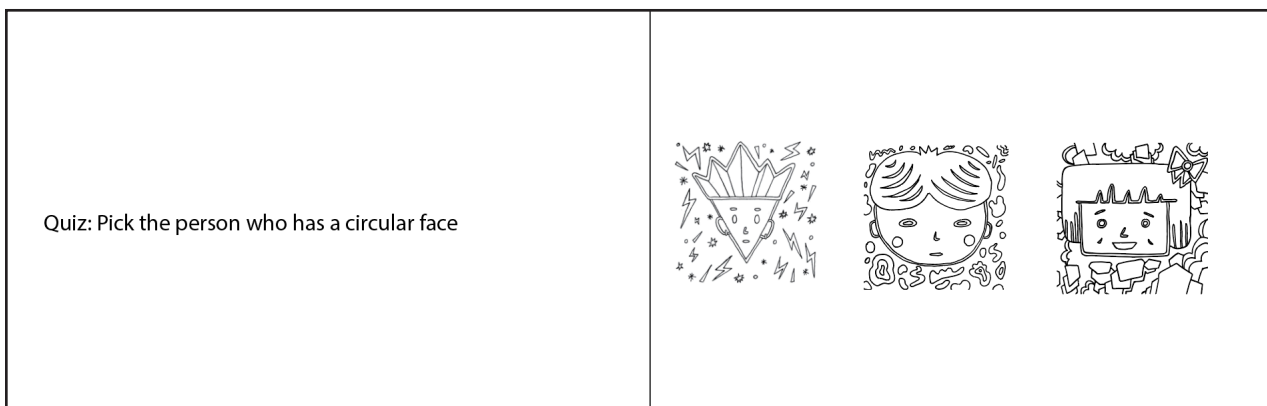
Figure 22. Mockup of A Children's book in Augmented Reality

4.2 Project Description

The project includes a printed demo pamphlet, and beta tested app with AR functions built using Vuforia inside Unity. The booklet, which intends to further develop into a complete children's book, includes original illustrations by myself, and simple educational content (recognizing colors, shapes, sizes, and textures) that aims to help children around the age of 3–5 to learn in a playful environment, preferably under supervision. The educational content includes collections of multiple choice questions, while each answer is presented along with a piece of illustration. The children's book functions on its own as the illustration and all instructions and reading contents will be printed on paper. The beta app allows users to read the book through the lens of their electronic devices, and manipulate the view of the world within by controlling a walking 3D character. 3D models of each illustration will pop up and float upon the 2D illustration when detected, along with a controllable 3D character that could run across the AR world. After reading the question, users can tap the desired answer, and their virtual character will walk towards the floating 3D graphic. If the answer were incorrect, an error sound effect would play indicating the users to pick another answer. Once the correct answer is selected, an explosion of confetti will appear with a congratulating message, and signals users to move on.

With AR, I was able to turn the experiences of reading a children's book into gameplay and turn the 2D drawings into 3D characters.

Figure 23.   Nine illustrations created for A Children's
book in Augmented Reality, scannable through augmented
reality devicess.
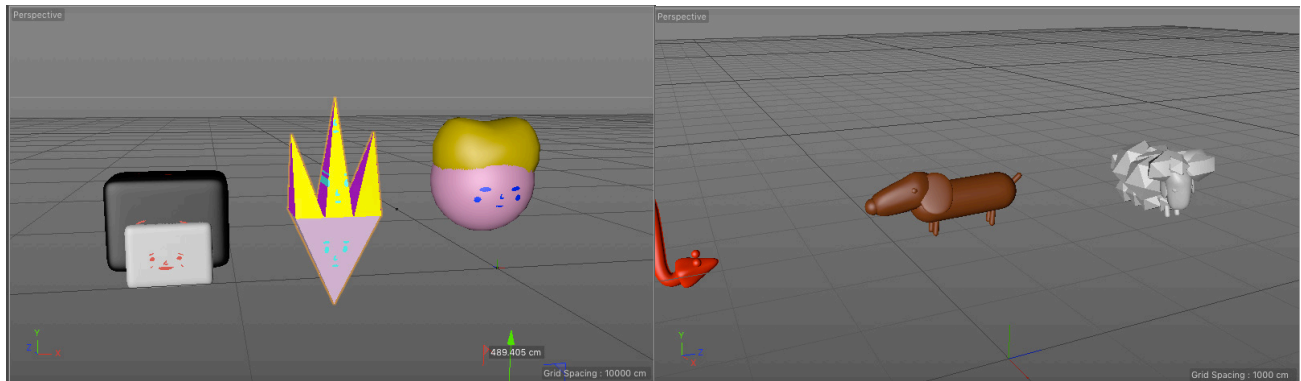
Figure 24. 3D models built in Cinema 4D that are showing in augmented reality.

4.3 Conclusion

Many children nowadays grow up with technology. It has been debatable whether parents in this generation should leave their children alone with electronics as part of their parenting. I also realized that children today embrace technology in a very different way. It is an on-going debate discussing the pros and cons of letting kids immersive themselves in a screen-driven childhood, but I would like to create something that helps kids benefit from being surrounded by technology while avoid being overly attached. To provide tactile experiences, I made a printed, traditionally hand-bound book. The technology portion of this project in my opinion also involves tactile experience by moving and tapping the character on screens. However, without technology (AR or electronic devices), children have the option to simply "read" the book. Given the choice of a printed book could also help children stir away from being occupied with screens.

The digital aspect of this project is to enhance the experience of reading a children's book, while the prints remain to be the core of the learning experience.

Veggie Kingdom

5.1 Summary

"Veggie Kingdom" is a collaborative installation displaying three handmade plush toys, with pockets in each plush designed to host noise generator, and an audio reactive projected visual background.

The installation was showcased during CalArts Digital Arts Expo on May 4th in Spring 2017, collaborating with the MFA students of Music Technology Niko De Paula Lefort, Kyle McCarthy, Nathan Villicaña–Shaw.

5.2 Project Description

The team project includes bi-weekly meetings from January to the date of the Expo, composing and submit a written application, assigning individual tasks to complete upon each session, and setting up the installation on the day of.

Figure 25. Veggie Kingdom by Cal Arts MTIID MFA, CalArts Digital Arts Expo (2016)

I was in charge of our main visual direction, as the rest of the team were working on the making of speakers, sound design, and an audio reactive environment made in Unity. I designed the plush toys, given the artist who worked in Unity a visual direction, written a storyline to go with the sculptures, and handmade all the plushes being displayed.

Completing the plushies includes drawing and designing the characters, pattern making using clothes, and the sewing process consists of both machine and hand. All the pattern drafted for these plushies are tailored explicitly to fit customized noise generators made by the other team members. Each person in the team has

their strength and goals when completing the project. The project was put together as each of us all had an ongoing personal project. My goal in the team was to bring in a different perspective to our presentation and ideas that drift technology away from a cold, bulky aesthetic naturally inherited from open electronic prototypes.

I already had an original plan of stuffing speakers into the plush toys of my design, and with the help of other teammates, the sound design became more complex and unique compared to my previous plan. The rest of the team's forte was focusing on building the hardware of generating sound; therefore I thought bringing in softness to the project would be a unique approach. Softer materials such as cloth and fur may not have been typically used in pieces involving robotic technology, but as a team, we agreed that it would be an exciting mix.
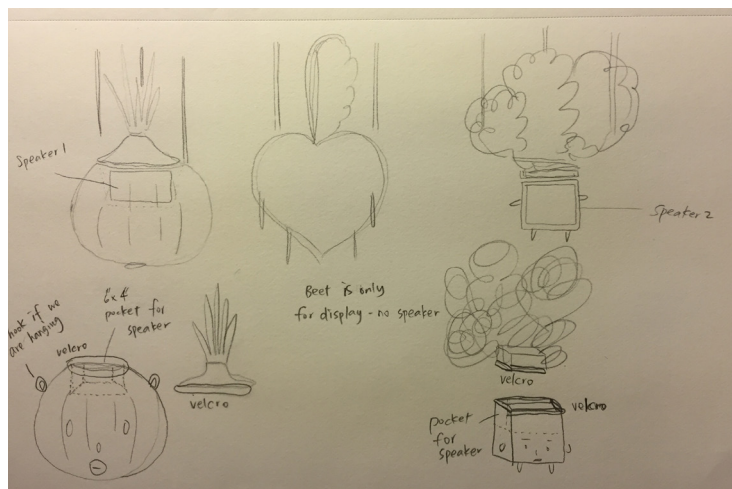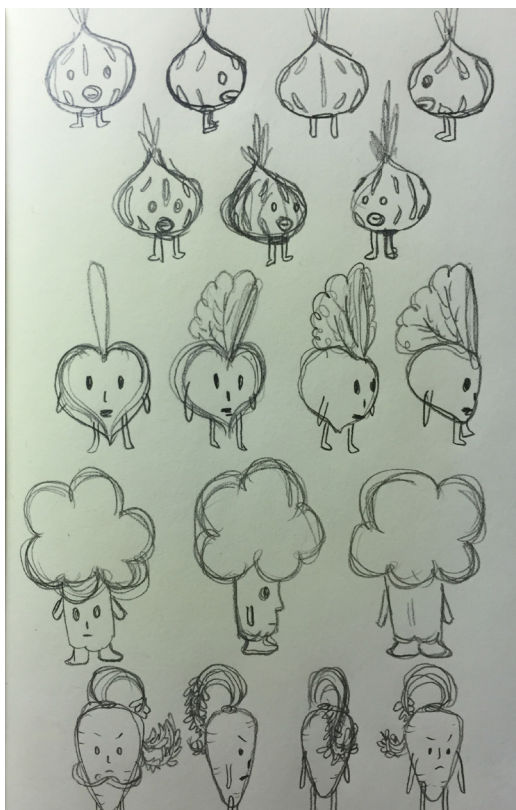
Figure 26. Sketches for character designs in Veggie Kingdom

I am more familiar with taking bolder actions when it comes to using cuteness in my piece, so I brought my toy design of a group of cartoon-inspired characters into the mix. The goal is to create juxtapositions of all the elements we are including, that show the unique individuality of each of us, but in an environment that also creates a quirky harmony as we combine cuteness, noise, robots, and vibrant colors.
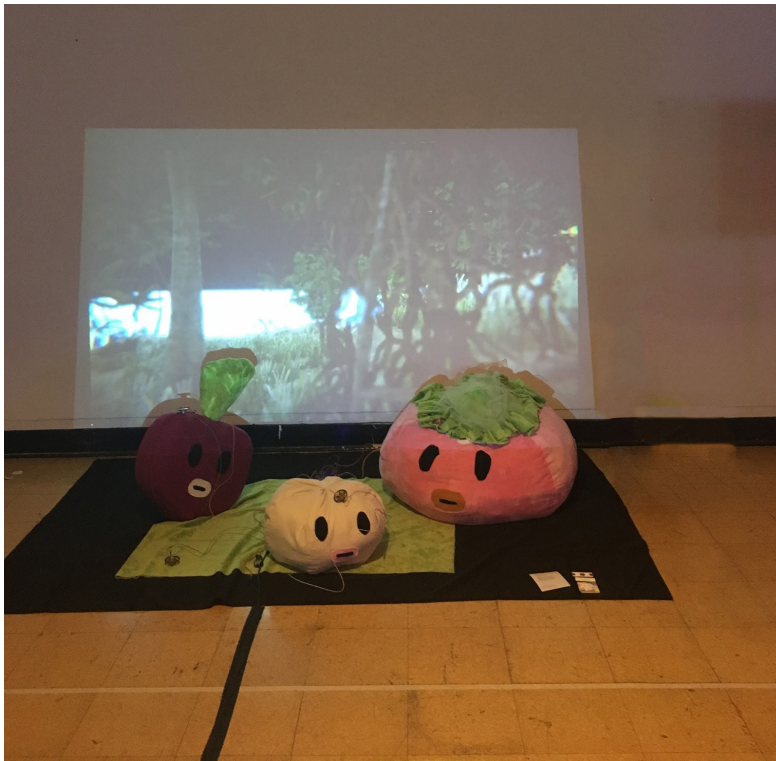
Figure 27. Veggie Kingdom by Cal Arts MTIID MFA, CalArts Digital Arts Expo (2016) – with a light source

5.3 Influences

Friends With You very much inspires the visual direction that I used for this project. Items used for "Veggie Kingdom" are the most massive plush toy (35x35x25 inches the largest) I have designed and sewed, which is to mimic the large-scale immersive installation FWY have done. The cuteness and Animism are also common in FWY's portfolio, as they often put facial expressions on shapes or everyday objects such as clouds. The installation was designed to be immersive, tactile, and fun.

On the day of the Expo, Veggie Kingdom was especially popular among children who came to the exhibition. The plushies do not include any programmed interactivity, but kids were intrigued by the appearance of large-scale vegetable stuffed toys and were enjoying the tactile experience. Veggie Kingdom was an eccentric installation while placed in the same space with all the other heavily digitized interactive pieces focused on technology such as video game premiere and VR headsets, but the interactive side of the project remained successful and engaging.

Figure 28. "Friends" Friends With You limited edition series, Plush Sculpture (2002)

5.4 Conclusion

Technology brings endless potential regarding creating communication between art and its audience, but some of the analogue/traditional/old/ unplugged setup or materials may trigger more sensitivities in humans. In the case of Veggie Kingdom, technology was wrapped in a sugar–coated shell and had attracted a different group of audience. Working on this project and seeing the outcome at the exhibition challenges myself to rethink the purpose of interactivity, and whether in my future interactive work I can think out of the box and not relying on programming or digital media to create interactivity. The balance between the two is what I would like to explore further.

CHAPTER SIX

Butterfly

6.1 Overview

"Butterfly" is a collection of audio, video, and prints based on a piece of creative writing. All materials were created in a Cal Arts graduate level course "I Am Not Me, the Horse is Not Mine" taught by Maureen Selwood, under the school of film/video.

Figure 29. "I Am Not Me, the Horse is Not Mine" End of semester show poster

As described in CalArts course catalog, "I Am Not Me, the Horse is Not Mine" is a drawing workshop/class. It is designed to discover how students can channel the impulses derived from obsessive observation of a particular image, memoir, real events, and appropriation and how to create incisive takes on them. Sound workshops as well will accompany the drawing/writing process to further the imagination and creative process.

I took the class to continue exploring my passion for creating visual art and looking for creative ideas to combine my knowledge of music technology with visuals. I create a piece using different material each week, as the class instructor assigned. My instructor, Maureen, encouraged us to explore the idea of mimicry as she spends half of the class each week presenting inspiring artists in various fields. Her presentation helps me with taking existing artwork, observe the essence in many perspectives, and turn them into my creation while using media or methods that I was not familiar with. Work I created in this class includes drawing, painting, animation, film, creative writing, field recording, and sound design.

"Butterfly" is a combination of all the experiments I did in this class. Based on a piece of writing, I created an audio reactive video using MAX Jitter, and a hand bond zine with illustrations and poems. The class hosted a group show at the end of the semester and showcased student work in class.

6.2 Writing

I previously took a short story writing class while pursuing my undergraduate degree at Art Center College of Design. I believe storytelling is a skill that will enhance my sensitivity while creating illustration and animation, which relies heavily on storytelling, but I have not had experience with writing ever since. I took one of the stories I wrote and revised it with the help of Maureen in class, and it became the creative force the drove the further development of my other

projects. The story was about a teenage girl struggling with communication, self-identity, and desires of attention. She befriended, personified a butterfly she caught and grew an obsession with observing it. Her struggle with her emotional states results in herself suffocating the butterfly in her palm on stage as a performance stunt.

Figure 30 and 31. Each zine was handmade by students in class and was showcased in a group show.

6.3 Audio

I have an audio recording of the article, performed by a visiting voice actress who came to our workshop. I directed her to set the right mood and tone indicating that the narrator of the story is a cynical teenage girl, and provided annotation of the story.

6.4 Audio Reactive Video

The class is a drawing workshop, but not limited to a specific medium. I generated drawings using visual programming language MAX. The MAX patch draws a rotating 3D sphere generated by noise.

Figure 32 and 33. Stet up for the audio-visual portion of "Butterfly."

6.5 Zine

I made three zines to accompany the texts. The content of these zines includes texts extracted from the short story, and also a series of drawings that were inspired by its plot. All materials used creating the zines were carefully curated and are meant to suit the feel of the story, and also mimicking the look and feel of a butterfly, its movement, and its habitat.
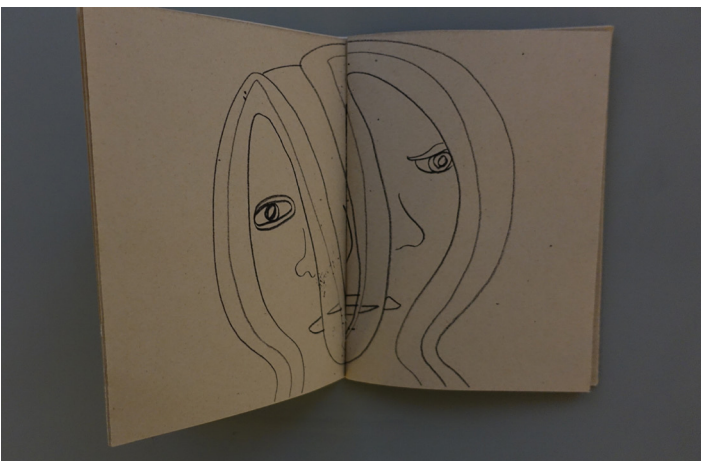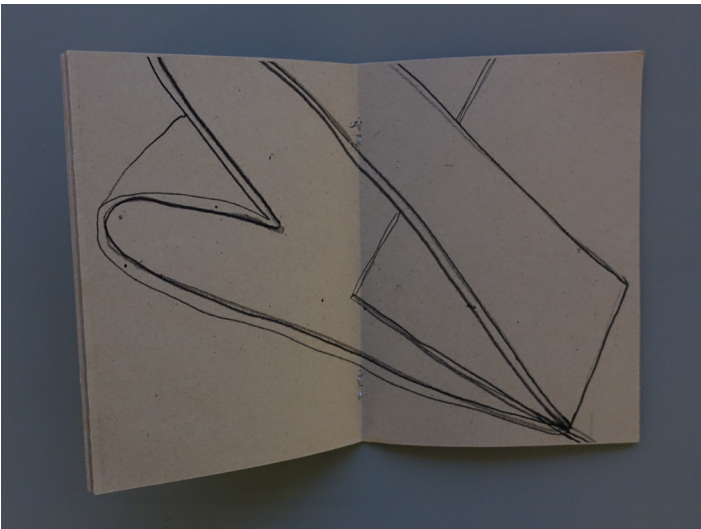
(Top)Figure 34. Zine covers I made based on "Butterfly." Figure 35 and 36. A spread inside the zines I made based on "Butterfly."

6.6 Conclusion

Each element included in the final installation, although were made during multiple stages as the class proceeded, was connected by themes and were meant to present as a whole. The writing, imageries, and audio can all function as standalone pieces on their own, but when arranging them together in a manner of one single art piece, they compliment each other and form a cohesive narrative. Technology is an essential part of the experience that acts as a bridge that transcends handmade texts and images into the virtual world and completes and the core of interactivity, allowing which to branch out and further trigger other emotional states. "I Am Not Me, the Horse is Not Mine" is a class focusing on the power of mimicry and encourage students to take inspirations from existing work. My take on this concept is to use technology as a tool to connect multiple media of art and push myself to merge various forms of art into one.

CHAPTER SEVEN

Conclusion

7.1 Summary

This thesis stresses the importance of the importance to take a step back as we move on and realizing what technology had done for us and what we had done without technology. How human engages technology is rapidly changing as technology evolves. Technology and humanity affect each other in various aspects. Human needs are one of the vital sources that drive the on-going advancement of technology, and while technology offers endless potentials, it is also sparking new ideas among us. It is an infinite conversation discussing what in humanity should be abandoned as we move on to a more digitalized world. There is beauty in the negative space that we left in the history of evolving technology, whether on purpose or not. Those negative spaces provide us information on what we can improve in the next technical movement, and concurrently reminds us what technology could not fulfill.

7.2 Primary Contribution

Within this thesis, I have presented a collection of work I have created and showcased throughout my time as an MFA candidate at California Institue of the Arts. I am eager to learn about technology so that I can create a path for myself as an artist, to merge technology with non-digitalized materials that I have been working with – cloth, paper, books, paints, and so on. Almost all of the projects discussed in this thesis involve an un-plugged aspect of art. While technology is essential, it acted more as a bridge between one medium to another. In these cases, technology remains tangible and expands the power of non-digitals. As I am in awe of technology, I am hoping to utilize it in protecting the value of its opposites.

7.3 Future Work

Throughout my study, I have accomplished projects that would not have been possible without technology. I wish to keep exploring potentials in combining materials I have been comfortable within the field of illustration with knowledge in technology that I have learned. Technology is a powerful tool regarding bringing together a wide range of media – arts, crafts, and sounds – but I would like myself to remember, and to protect the value of non-digital elements. Being an illustrator defined who I am as an artist. With technology, I was able to add sound design, turn my graphics interactive and even immersive, but the importance of balancing the two will always be a challenge. I would like to encourage myself to continue to rethink the role of technology in my work as I continue to explore the new, endless possibility it brings.

7.3 Final thoughts

Technology brings endless surprises and is no doubt that it has brought us a vast amount convenience and has lead to many positive changes. It is essential to engage with technology and be aware of its power, but humanity began without technology, and there are still things in the realm of traditional crafts that are irreplaceable. Items such as primitive imagination, prints, handcrafted goods, can all trigger more profound sensations. By learning and appreciating technology, we should also recognize what in humanity that technology cannot achieve.

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