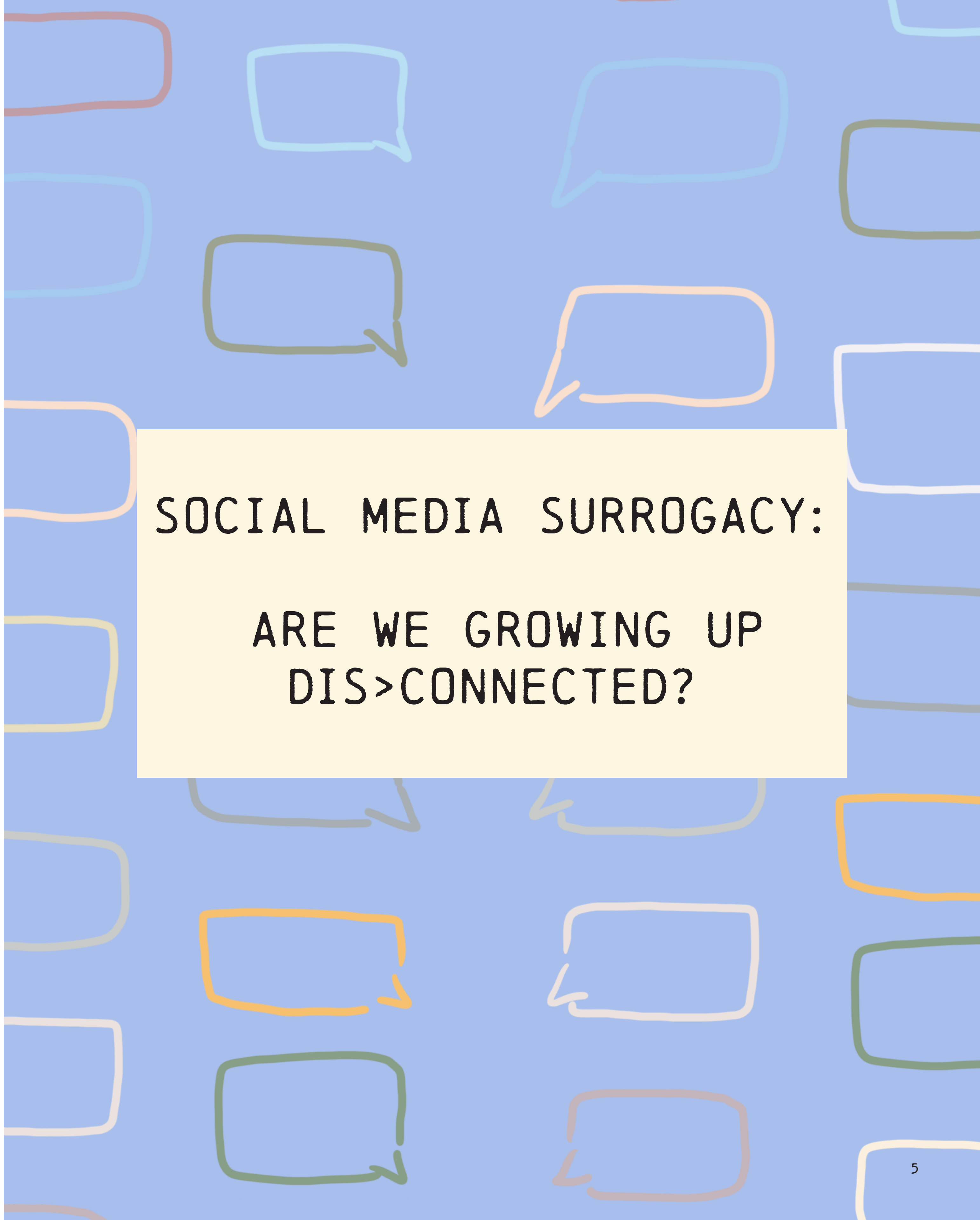
DMI 2022

SOCIAL MEDIA SURROGACY:

ARE WE GROWING UP DIS>CONNECTED?

Tatiana Baughman



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With special thanks to every piece of wisdom and encouragement:

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Joe Quackenbush
Fred Wolflink
Abraham Evensen Tena
Martha Rettig
Fish McGill

My Cohort, Friends & Family

Each conversation, critique, question, car ride, gallery show, etc., has made this such a special experience.

Dedicated to my loved ones
Thank you for every confidence
you are my inspirations ♡

Here Am I

-Tatiana B.

This thesis is submitted in partial fulfillment of the requirements for the degree of Master of Fine Arts in Design and approved by the MFA Design Review Board of Massachusetts College of Art and Design in Boston, Massachusetts.

May 2022

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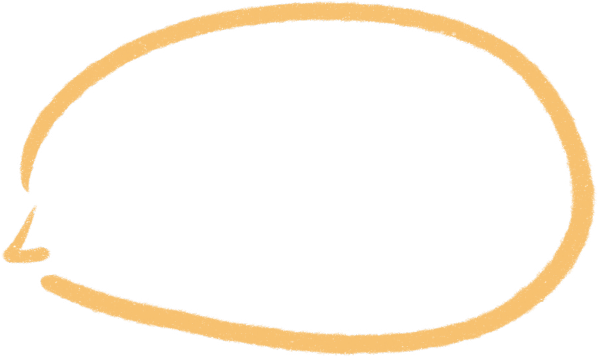

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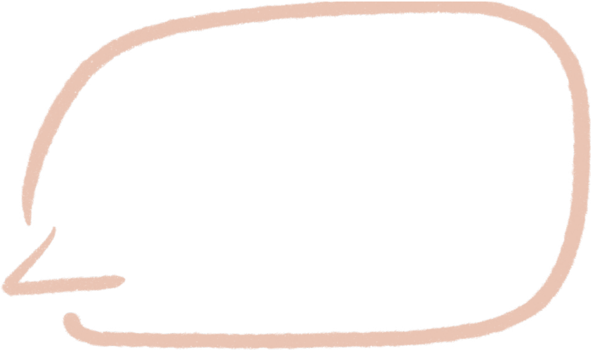

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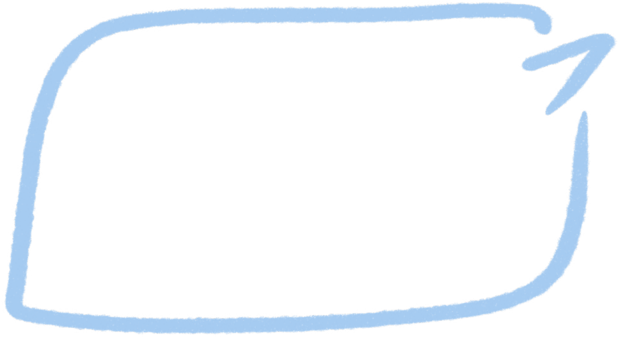

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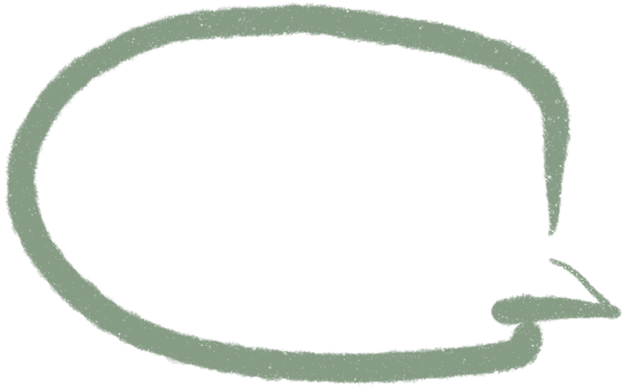

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Abstract

Technology has an impact. It is a huge part of our daily lives. Most ages can use cell phones and even 1-2 year olds have learned to use iPads.

Why is technology so attractive?

Humans have an ancestry of face to face interactions. What happens when the shift of human connection is translated through a virtual environment? My main purpose is to learn how younger generations are developing relationships within a technologically immersed world.

As someone who has grown up alongside the early digital developments, and watched my younger siblings grow up directly within it, I want to know to what extent technology affects the quality of our relationships and connections?

How can we recognize our own desires for connection and how do we use social media to reach those goals?

I hope to shed light into this topic via exploration of psychological theories and frameworks, along with case studies and examinations of my own relationships and experiences.

Connection : “1 : the act of connecting : the state of being connected: such as

A : causal or logical relation or sequence

B (1) : contextual relation or association

(2) : relationship in fact

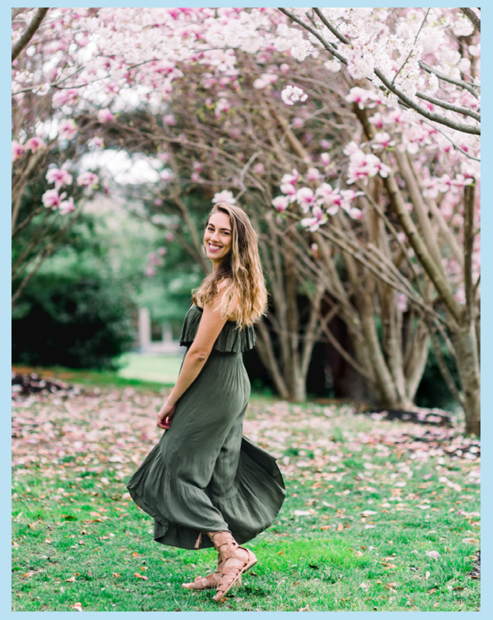
C : a relation of personal intimacy (as of family ties)”

INTRODUCTION

GET TO KNOW ME

Generation Z-ish

The Eastern Shore of Maryland, particularly the small town that I grew up in, tends to be fairly rural. I come from a historic area, more focused on retirement leisure than investing in attracting new families and younger generations. Although we have George Washington's only founded college, with the lack of things to do, many college students have to drive to another area to do something fun, or we spend time on our devices to entertain us when friends aren't around. It takes about 40 minutes to get to a place with more than 5 restaurants within a 10-mile radius. Things are typically more on the quiet side although we have our moments (for example, Tea Party, Harry Potter festival, and downrigging weekend). It is mostly farmland and some neighborhoods anyway. Everyone pretty much knows each other, and the businesses rotate in and out with the seasons. Most people keep to themselves unless they have kids that go to school together. This is all to say, that things are fairly quiet and quaint, but not necessarily in a bad way. I was fortunate to grow up right outside of town. I also went to college there, which ended up keeping me involved with my family and siblings more than I would have if I had gone away.



Graduation portraits mom took at Washington College in March of 2020

My name is Tatiana Baughman, and I was part of the 2020 college graduates that had to finish their collegiate careers virtually. My final capstone paper while at Washington College was titled *Evolution of Privacy: Data Policy & Internet Advertising in the United States*. It was an in-depth look into the history of data collection within the United States as an understanding of how social media platforms collect, sell and store personal user data today. My purpose was to explore the history, understand the current practices, and offer solutions and insight for more transparent and trustworthy relationship-building between people, companies, and the online realm. My findings were that companies needed to be more transparent with their consumers and that consumers had a responsibility to inform themselves about how their data will be collected and used. Now as I finish my Master's at the Dynamic Media Institute, I have revisited the topic of social media but through the lens of understanding how younger generations are developing in the new socially digital age.

It was funny because at the start, my research was about the spaces we create in physical vs. virtual space. I didn't want to research social media. Funny how things come full circle.

Though I would now define "dynamic media" as any interface that allows people to be the input to the interface's output. It is a way to allow people to interact with ideas through a technological interface or component.

I found DMI when applying for industrial design master's programs, it was the only school to which I applied that was based on "dynamic media," whatever that meant. I ended up having a Zoom meeting with DMI Co-Director Fish McGill and, at the time, student Mayuri Saxena. They shared their experiences with the program and how the current cohort was navigating the pandemic. I immediately found myself excited by everything I was hearing - how people worked with one another, the encouragement for collaboration, and the opportunity to learn new skills which center around technology. After hearing from the other industrial design programs, I talked with family and friends, weighing all of my options. I went with the choice I felt would allow me to really grow as an artist, designer, and person. So, I moved to Boston in August of 2020 and have been there since, pursuing my Master of Fine Arts at the Dynamic Media Institute at the Massachusetts College of Art & Design.

Quinn & Andrew at our first festival together, Firefly 2021

Me, Aurora & Genevieve shopping

A favorite picture of grandma and me

I have four younger siblings, with the next in line being six years younger - Andrew (18), then Quinn (16), and finally, the twins, Aurora and Genevieve (14). My father's family are farmers, my mother is a photographer, and her side of the family is filled with musicians, designers, and healthcare workers. I've been so fortunate to be around such a diverse grouping of people growing up and it has taught me how to observe. Being the oldest of five, I have been able to watch slightly different generations of kids grow and mature. Our relationships with each other and technology are all different. I believe this is in part to how we were raised, to get outside and be active, not lazy. But also through environmental exposures and experiences with other people around us, such as in school or sports.

My relationship with technology and social media really began expanding once I had the tools to access it. I got my first phone around age 9 because I would go to visit other family and needed a direct way to contact my mom. But it was one of those silver flip phones with an antenna that would charge you money if you accidentally clicked the button to get on the internet. Later I got an iPod nano with no screen and only music. Then, probably around age 11 or 12, I got my first iPod touch which allowed me to independently access the internet instead of having to go through the house desktop in the office. Social media platforms were also beginning to grow at this time, which brought more people online. The attraction to the new technology from others, made me want to be a part of the collective as well, so naturally, I pestered my mom into letting me get my first Yahoo e-mail account and Facebook page (with her supervision). I was only about 14. Of course, that led me to want and make (on my own accord) a Twitter, Instagram, Youtube, and Tumblr account as they rose in popularity with my friends. Leaving me with probably around 5+ social media accounts before the age of 15/16.

I've done photography with my mom (as professionals) since about 15 yrs.

My dad is a dairy vet, so I've been around cows forever. I've even taken some friends to farms to pet the calves like you would a therapy dog

Missions trip to Barahona in the Dominican Republic with Mom and Andrew

My siblings on the other hand have grown up in a culture immersed in technology, and thus because their friends are online at earlier ages, they want to be too. Rather than having to wait and get strong parental oversight, they now all have social media accounts. Currently, they are old enough to be more discerning, but I can't help but be nervous for them and their mental/physical well-being. Part of this is due to my own online insecurities I experienced in high school, but part of it is also because of the trends and ways I see younger generations post on the internet.

The differences in generational attachments and life integration with technology may differ slightly, but I believe they hold large impacts on the way we form and maintain relationships with other people. I also believe that younger kids are exposed to more information, trends, beauty standards, etc. at younger ages. Thus they begin to take on the "I have to fit in to build connections" mentality, leading them to mature and grow up at younger ages. I believe that there are a variety of factors at play and different responsibilities that need to be acknowledged.

Me & mom, a picture kept at grandma's

- PARENTS HAVE A RESPONSIBILITY TO HELP GUIDE THEIR CHILDREN AND BE AWARE OF HOW MUCH TIME THEY ARE SPENDING ONLINE (PARTICULARLY AT YOUNGER AGES). ENGAGE WITH THEIR KIDS ON PERSONAL LEVELS

- TEENS AND YOUNGER GENERATIONS NEED TO BE AWARE OF THE VOLATILE NATURE OF THE INTERNET AND SOCIAL MEDIA. THEY HAVE TO BE DISCERNING ABOUT WHAT IS POSTED ONLINE. SOME THINGS ARE BETTER POSTED IN A JOURNAL THAN ON INSTAGRAM OR TIKTOK.

- SOCIAL MEDIA COMPANIES HAVE A RESPONSIBILITY, TO BE HONEST ABOUT THE TARGETING AND TRACKING THEY ARE DOING. I DO NOT BELIEVE THEY SHOULD BE ORCHESTRATING ATTENTION FOR PROFIT.

- AS HUMANS WE NEED TO BE MORE PATIENT, GET OUTSIDE, GET IN PERSON, AND START RE-LEARNING SOCIAL SKILLS THAT HAVE BEEN REPLACED WITH SOCIAL MEDIA ETIQUETTE AND MEMES. IF WE CAN UNDERSTAND THAT HUMANS WERE BORN WITH BASIC DESIRES FOR HUMAN CONNECTION, THEN WE SHOULD ACKNOWLEDGE YOUNGER GENERATIONS TRYING TO NAVIGATE GROWING UP IN A DIGITAL WORLD AND HOW HARD IT IS (PARTICULARLY DURING A PANDEMIC). WE NEED TO BUILD UP YOUNG CONFIDENCE AND A BETTER BALANCE BETWEEN THE ONLINE WORLD AND THE REAL ONE INDIVIDUALLY AND COLLECTIVELY.

Social Media Surrogacy:
Are we growing up Dis>connected?

Is set into three main parts. The first (Part I) explores childhood development theories as a basis to understand the ways kids are understood to form attachments to people and things outside of themselves. The theories provide a scientific basis for understanding human development from a young age. That base knowledge is necessary to start examining the relationships we build with and through technology - specifically relative to social media. In Part II I provide examples of work I have been doing in order to help mitigate this digital, emotional distance many young people seem to be feeling when much of their time and attention is spent online. The works provided are case studies that contain elements of storytelling, relationship building, communication, and physical/digital presence. Finally, Part III is a summary of what I have learned while in DMI, and how my work and research have led me to my final conclusion.

The fence that lines our yard. We all have climbed on this since we were kids

My sisters, aunt, and both sets of grandparents

CONTEXTUAL RESEARCH

PART I

Introduction

Within the psychological realm, there are various theories and studies that build upon one another in regard to human/childhood development. To inform my understanding of how younger minds develop, I chose to begin my research in psychology. There are a few key theories that helped to frame my mindset and direct my research.

The second part of the contextual research is concerned with relationship dynamics, where technology and social media fit within forming attachments. The final section is about the pandemic and how kids/others have dealt with managing relationships digitally. I would like to take a moment to acknowledge that this topic of human relationships relative to social media is very subjective and circumstantial. There are many different factors to consider and while I cannot offer a perfect solution, I do hope through analysis and insight into attachment and communication dynamics, I can provide recommendations to help people forge more meaningful connections with one another. I would like to help to raise awareness about the different ways kids develop and form attachments. This provides a basis to understand how technology, and social media fit into younger lives. By acknowledging the base desire for human connection, and the dynamic/volatile nature of social media, I hope that the collective “we” can not only better our own relationships, but also provide better support for the younger siblings and friends growing up online.

Psychological Frameworks/Younger Years

If “connections created in utero and during the earliest stages of life indelibly shape our lives, [and] remain prominent throughout the human experience” (Courtney, Nowakowski-sims, 2018), then how does the use of technology, phones, computers, and other hand-held communication technologies affect relationships between people? What role is technology playing? Maslow’s hierarchy of needs states that belonging is crucial to meeting emotional needs (Smith et al., 2021), thus it would make sense that children and young adults would desire to be on social media as a means to feel a part of the digital collective consciousness. That is, this digital community, or realm, consists of the current popular trends, viral videos, and other content which is absorbed and shared as fast as it’s being posted. Think about TikTok, Twitter and Instagram. Each of these platforms has an immense variety of content but depending on your interests, algorithms try to hold your attention by providing content it thinks is relevant to you. As a social media consumer, I have felt both positive and negative aspects of social media. I enjoy posting content on Instagram and feeling as though people care enough to leave a “like” on an image, but this sense of validation and affirmation by others is short-lived. In high school, around the age of 15, for the first time I was uncomfortable with my own body because of the images and comparisons I would make to others online. I had been fine with my appearance until I knew what trends seemed to be popular and accepted within online social groups. I didn’t know any better because the focus was on school and my friends, not what gained virtual attention.

Now, as people are more comfortable sharing their lives and appearances on social media, I can't help but think of my own siblings and other kids who are growing up with various standards, and altered images/videos within the digital environment Growing up with devices and social media has blurred the lines between how a "typical teenager" would act vs. the ways technology has seduced us into behaving. Personally, I believe I have watched social media grow into such an influential and valued part of society, that you are weird, rare, or sheltered to not have a social media account, particularly at younger ages.

Mom + me

It has been observed that extroverts may be more active on social media, and thus have a stronger sense of belonging than those who may be more reserved, and introverted (Smith et al., 2021). Courtney & Nowakowski-sims state in their research, Technology and the Threat to Secure Attachment, that early technological use can take away from personal relationship building with parents and others, which can lead to lapses in empathy and other social skills. Manago and Peterson, on the other hand, in their article, Embracing Technology as a Tool for Healthy Attachments in Adolescence, propose that "adolescents who spent more time communicating with friends via technology also spent more, not less, time with parents compared to those who had fewer contacts with friends." So is using technology for communication, or as a facilitator for interactions, inherently better or worse for a developing child? Is it the method of online access, or the online realm itself that poses more of an influence?

Dr. Harold Kolewicz of the Child Mind Institute writes "the developing brain in adolescence is not geared towards future planning and reflection - it's about the present moment and heightened experience" (2020). I have heard countless family members and adults criticize younger generations for having their "noses stuck in their phones." But where does this behavior come from? How do children grow to become "addicted" or "heavily reliant" on their digital technologies - phones, computers, other handheld communication devices. I argue that it is not the device so much as the content it holds. There are a few psychological theories that could help frame a base understanding of childhood development and the basic desire to be connected with others.

I would like to point out a few key theories that are particularly relevant to my research topic: Erikson's Stages of Psychosocial Development, Piaget's Cognitive Development Theory, Albert John Bowlby's Attachment Theory, and Bandura's Social Learning Theory. These different frameworks provide insight into human development within human relationships, physical environments, and attachment.

THEORY SUMMARIES

Erikson Psychosocial Development	Piaget Cognitive Development	Bowlby Attachment Theory	Bandura Social Learning Theory
8 Stages	*4 Stages*		
• Growth & change throughout life • Social interaction & conflict through each stage	• Children & adults think differently	• Children + attachment • Strive to stay close to caregivers, safe & secure	• Learn through observation • Environmental influences

Descriptions from VeryWell - Cherry, Morin, 2020

Erickson theorized “how social interaction and relationships play[s] a role in the development and growth of human beings,” (Cherry, 2021). He set the stage for childhood development theories by saying that children develop in eight stages which entail different emotional and cognitive developments. Piaget’s theory builds on how children gain knowledge over time and in relationships with other people. That children learn through their own trial and error. Kids “continually add new knowledge, build upon existing knowledge, and adapt previously held ideas to accommodate new information,” (Cherry, 2020). Bowlby “... recognizes that connections created in utero and during the earliest stages of life indelibly shape our lives remain prominent throughout the human experience” (Courtney, Nowakowski-sims, 2018). While Bandura’s Social Learning Theory suggests that there is an interplay between the environment and the individual, “we are not the product of our surroundings, rather the influence of our surroundings,” (McLeod, 2016). Children are impressionable, this point seems obvious, but there is debate as to whether kids are born with innate emotional predispositions and behaviors vs. what is learned in their physical environments.

This is what you may call the argument of Nature vs. Nurture, “The nature versus nurture debate involves the extent to which particular aspects of behavior are a product of either inherited (i.e., genetic) or acquired (i.e., learned) influences” (McLeod, 2018). While I agree with different aspects of each theory, I primarily agree with Bandura’s assumption that humans learn through observation and social contexts. Especially as it relates to technological use, personal development, and the ever-dynamic area of technology. Kids observe and mimic, so watching an adult on their phone can lead to younger use of phones and other technology. Electronics with internet access serve as gateways of access to social media. Social media houses enormous amounts of information and opinions, how are children to discern between the information or even people to trust? Smith et al., (2021) state, “the landscape in which youths communicate and develop social relationships is rapidly changing with the advent of newer technologies that offer some intriguing possibilities for connecting with others.” With the integration of social media in our daily lives, and the basic desire for connection, how can we blame younger generations for enveloping themselves in the online experience?

Genevieve & Aurora on
their first day of school
image by my mom

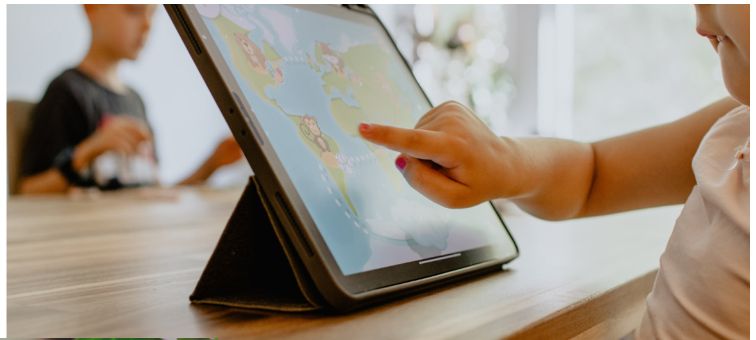
Growing Technology

Communicative Technology, specifically referencing phones and other handheld electronic devices used for the communication of ideas, thoughts, emotions, etc. to others, provides access to knowledge and information. As Bowlby and Bandura would argue, children are influenced by both their environment, those around them, and their genetic predispositions. Technology is a huge factor in the development of children. After all, "...children are at the forefront of the technological revolution3 and [the] developing brain is more malleable in response to experience than is the adult brain 4, 5," (Bavelier, 2010). But how does technology, and in turn social media, become so influential? What is the attraction?

"Overall, adolescents and young adults' stated motivations for using SNSs [Social Networking Sites] are quite similar to more traditional forms of communication - to stay in touch with friends, make plans, get to know people better, and present oneself to others," (Margolin & Shapiro, 2014). Younger individuals have various online platforms which they can use to explore, connect, and express their own minds. Such as but not limited to Instagram, Snapchat, Twitter, Reddit, Facebook, etc. There is freedom of expression here, but I believe also, a desire for connection. The basic instinct to be in contact with other people is reflected in much of the literature but in studies from all over the world. A study from Indonesia states "humans are said to be social creatures, which means that humans cannot live alone and depend on one another. Communication is an important element in human life" (Arthadea, Pandrianto, 2021).

Photo by Sigmund on Unsplash

Photo by Kelly Sikkema on Unsplash

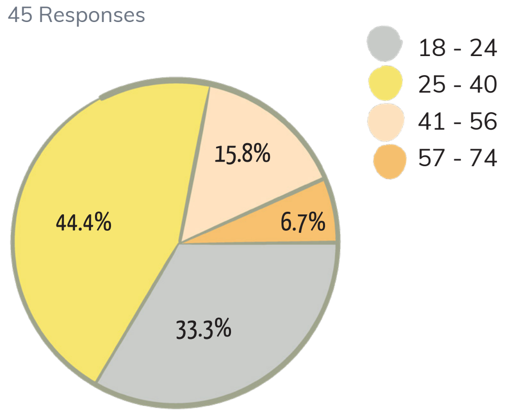


A UK study of over 10,000 fourteen-year-olds found that girls were more affected more than boys in regard to being online. While this finding is relative to time spent online, "adolescence is a period of vulnerability and for the development of depression..." and although, "using social media can be beneficial including as a source of social support and knowledge acquisition, [there is] a melting body of evidence suggests associations with poor mental health among young people," (Kelly et al., 2018).

I produced a short survey asking participants about their social media experiences. I wanted to know when they got their first social account and what platform it was, why they got it, if they enjoy making new online connections if they thought social media had changed over time, and how they think younger people use social media and what advice they have for them.
The responses were so insightful. Although there are debates on the proper age groupings, the age ranges for my survey are categorized as follows:

GEN Z: 18-24
MILLENNIALS: 25-40
GEN X: 41-56
BOOMERS: 57-74

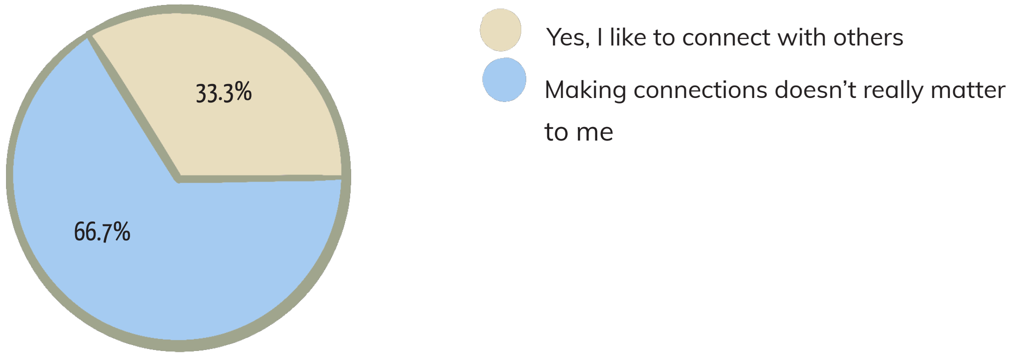
WHAT IS YOUR AGE?



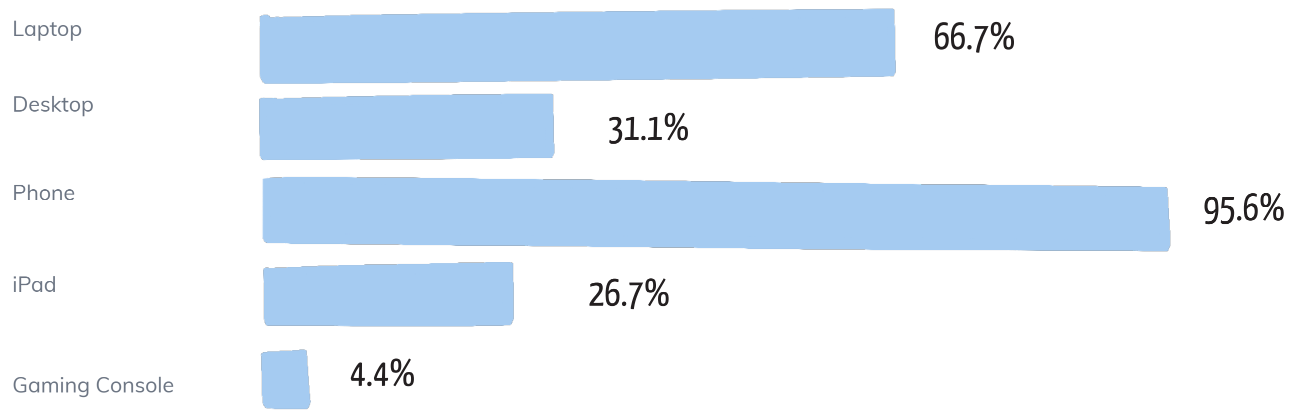
I posted the survey on Facebook, Instagram, Slack, and What'sApp in order to try to get different age ranges and technological experiences. A summary of my findings is as follows:

- Many people joined social media under the premise of staying connected with friends and family
- Most people use their phones to access social media platforms

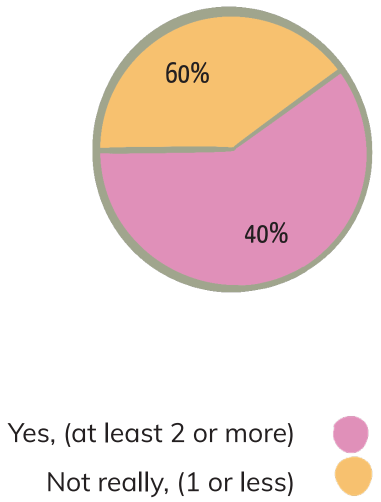
DO YOU ENJOY MAKING NEW CONNECTIONS ONLINE? (FRIENDSHIPS, RELATIONSHIPS, ACQUAINTANCES)



WHAT DEVICES DO YOU USE TO ACCESS SOCIAL MEDIA?



HAVE YOU FORMED ANY MEANINGFUL VIRTUAL RELATIONSHIPS WITH OTHERS THAT CARRIED OVER TO THE PHYSICAL WORLD FROM SOCIAL MEDIA? (NOT INCLUDING DATING APPS.)



While most people said that they like to connect with others, not many relationships formed online were able to translate to the physical world. This could potentially be due to distance. One respondent mentioned, "I've made a few meaningful friendships. None are in person because we are so scattered location-wise. Such friendships wouldn't really be achievable without social media." People also seemed to agree that any advice they would give to younger individuals online stems around the content you post. That content can affect your reputation, social media can be a good outlet and connection for people but you should be careful about what you believe on the internet as much of the content is curated for attention, and while online can be a place for connecting, it does not replace in-person connection, thus adolescents should value and continue to build in-person face-to-face relationships.

"The youth use social media basically just like adults do."

"I believe they use it to create a presentation of themselves in a performative way. But that's not even their fault it's the move toward social platforms just being media platforms..." My advice is: create specific accounts for different purposes to not get lost in it if possible. Or just to be aware of the reasons and purposes they are using the product."

"I think youth use social media to curate their lives. Create narratives and visuals that tell a story that might not be indicative of what they're really experiencing or living."

"Youth use it as a competition and that worries me. Likes and followers mean a lot to kids, and they feel like they curate themselves to have mass appeal on social media. I watched it happen with my little sister and it broke my heart. My advice to her was to post whatever makes her happy and feel most like you, social media is at its best when people are unapologetically them. "

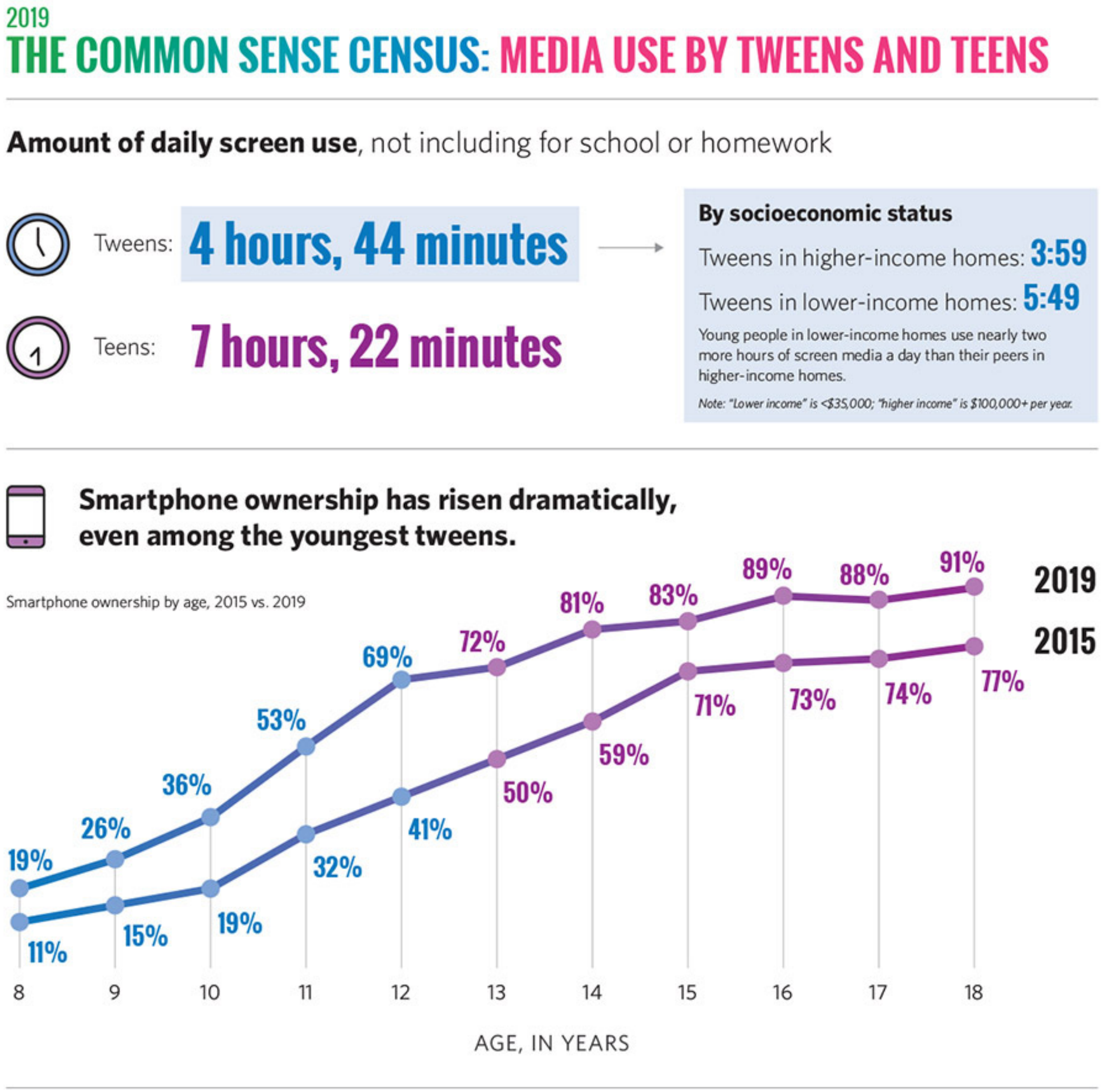
"To the question "Do you think online social platforms inspire more genuine connections than not?" Both negatively & positively - but I feel it is a huge contributing factor to mental illness especially depression."

"I've made a few meaningful friendships. None are in person because we are so scattered location-wise. Such friendships wouldn't really be achievable without social media"

"I think people in general forget that tangible human interaction is just as important as online interaction. There is a tendency to forget that there is another human being on the other side of the screen. It is great to have a level of freedom and openness, but remember what you type is just as important as what you would say face to face."

"I think young people use social media to find niche groups to fit into. With or without social media, teenagers are at an age where they want to form a personal identity, and social media makes it easy to go window shopping for hobbies/aesthetics/etc. I don't think this is a bad thing, though I think internet humour and memes don't include a lot of nuances and it can lead to people pigeonholing themselves/others."

"I'd say similarly to how I do now just obviously at a much earlier starting age. I'd ask them not to let it distract them though as they still need to put energy into forming real work connections and completing real world tasks. To me, social media should just be used to reinforce those things once already established."



2019

THE COMMON SENSE CENSUS: MEDIA USE BY TWEENS AND TEENS

Amount of daily screen use, not including for school or homework

Tweens: **4 hours, 44 minutes**

Teens: **7 hours, 22 minutes**

By socioeconomic status

Tweens in higher-income homes: **3:59**

Tweens in lower-income homes: **5:49**

Young people in lower-income homes use nearly two more hours of screen media a day than their peers in higher-income homes.

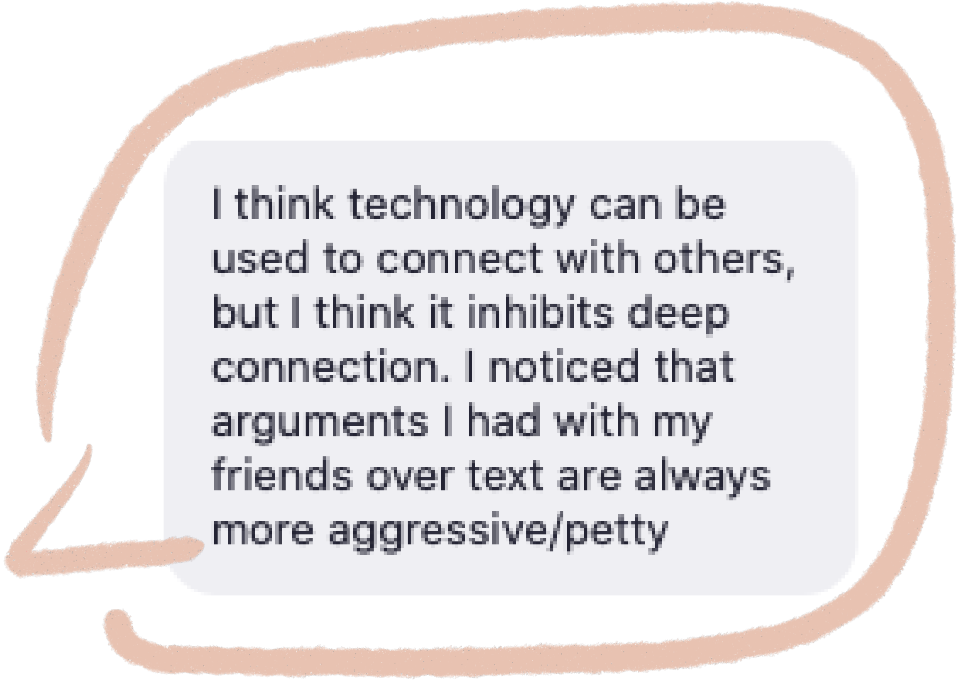
Note: "Lower income" is <$35,000; "higher income" is $100,000+ per year.

Smartphone ownership has risen dramatically, even among the youngest tweens.

Smartphone ownership by age, 2015 vs. 2019

Common Sense Media, 2019

The Social Compensation Hypothesis says, "those who perceive their offline social networks to have undesirable characteristics seek to compensate by developing more extensive online social networks," (Danowski & Zywica, 2008). Essentially, people compensate for their real-world relationship dynamics by the use of social media. Or as Elizabeth Gerber writes, "People relate to technology as they relate to people," (2011) to which I agree, although I would argue more specifically that people primarily use technology as a gateway to access other people and content. Devices such as phones and other screen-based content have become portals for individuals seeking community and connection with other humans. We can see this dynamic exacerbated during the time of COVID-19.



I think technology can be used to connect with others, but I think it inhibits deep connection. I noticed that arguments I had with my friends over text are always more aggressive/petty

Zoom quote from a student in the Narcissism, Creativity, & Aggression course I was a Teaching Assistant for with Professor Gunta Kaza

The Pandemic

The onset of the pandemic caused disruption for all. Societies around the globe were forced to disassociate in ways they had not needed to do in a very long time. Teens and adolescents are among those arguably hit hardest emotionally and mentally. "Prior to COVID-19, many teens relied on friends they saw in person to stay on an even mental health keel," writes the Child Mind Institute for their California Partners Project, "they have built toolkits for dealing with the crisis and those toolkits are mostly filled with tech. Social media, texting, and video chats with friends were mentioned by everyone we talked to; however, most say that it doesn't replace in-person connection." There is also the danger of access to unverified information and mass media coverage which "may aggravate the mental distress" an article from Pakistan shares (Inran et al., 2020).

Digital interfaces allow for a distraction from the immediate circumstances one may find themselves in. In a way, one can disassociate from the current physical space and the people in it simply by unlocking their phones. You may see this in restaurants, buses, trains, planes, or even at your own dinner table. In the same realm, technology can serve to connect. Putting people in contact, over vast distances and even time zones.

Photo by Robin Worall on Unsplash

Me exploring my surroundings

Phones are one of the primary modes of communication along with e-mail and video chat. Phones are also more widely accessible than computers or other electronic communication methods (Child Mind Institute, 2020). With the increase in tech use within most age groups, it has been more and more common to see infants and toddlers with iPads, phones, and the knowledge of how to use them. But there are a few important notions to keep in mind when thinking about child development:

- Children do not need to be occupied all the time, there "are things primarily learned by exploring the natural environment and using the imagination to spend time in unstructured, creative play" (Courtney, Nowakowski-sims, 2018). There are social skills that form, problem-solving capacities and empathy to be built when children are allowed to play on their own.
- Based on ancestral and survival instincts, humans are driven to connect with one another (Courtney, Nowakowski-sims, 2018). Children are growing and discovering themselves. They mature and change, as do their attachments and desire for intimacy with others (Behrmester, Furman, 1987).

For example, Behrmester and Furman in a 1987 study explored what developmental changes there are in children as it relates to companionship and intimacy regarding familial vs. friend-based relationships. They found in their study of over 100 girls and boys in second, fifth, and eighth grade, that attachments to parents vs. friends do shift as the kids grew older. This was in alignment with Henry Stack Sullivan's model of social development where "particular social needs were seen as emerging during certain stages of development" (1987), and also Barker and Wright's early data (1955) of children being closer with parents and peers during their middle childhood since they spent more time around them.

This early study essentially highlights the relationships that children build with one another and their families over time. Specifically, how intimacy shifts for boys vs. girls as they grow. So, if a study from 1987 shows that girls at younger ages are more likely to build a “level of intimate disclosure in friendships... [with other girls that continue] into early adolescence,” while “male-male friendships never achieve the same level of intimate disclosure,” how have things evolved today with the introduction of electronic technology and social media?

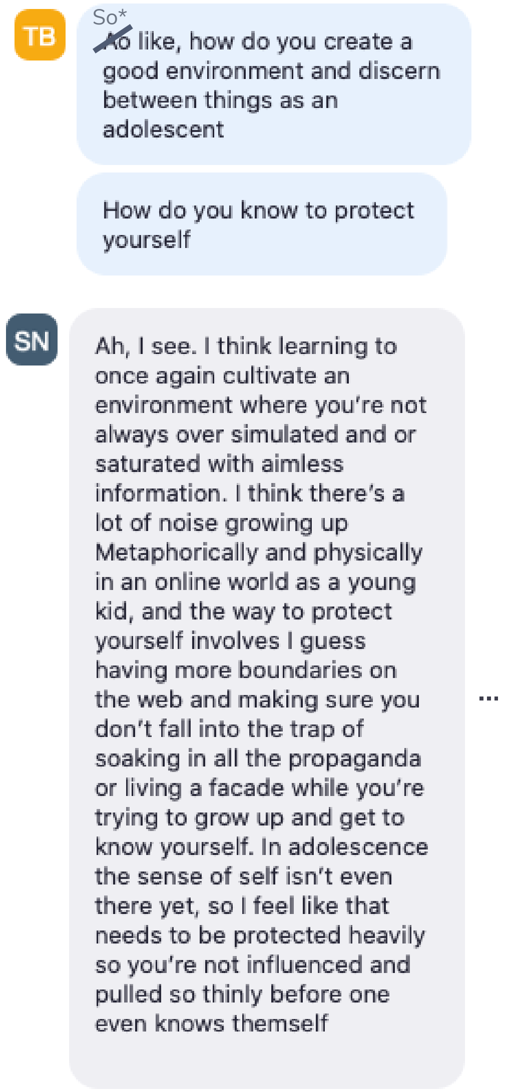
According to a 2020 Northwestern University Blog, Natasha Varela, who is the director of Child, Adolescent, and Family Services and therapist at The Family Institute at Northwestern University, shares,

> “While boys lean more toward sharing things that are funny or entertaining, ‘girls are really using social media to connect with other people,’ she said. ‘A lot of teens use this space to present themselves how they want to be seen, but there is a pressure for girls to be worried about [how] others [will] perceive them.’”

As a young girl growing up online, I can relate to the pressures of meeting the social beauty standards, and I watch as my sisters now navigate the same river. As an active social media user, I watch as algorithms highlight individuals who visually appeal to the majority.

Only within the last few years are we now seeing a push in advocacy for how deceiving the internet can be. Tik Tok users are showing examples of Photoshopped vs. un-Photoshopped images of celebrities, showing the differences in physical appearance when in good lighting, and trying to advocate for more body diversity in fashion and marketing campaigns. This is a step forward for younger generations, providing more awareness and hopefully inspiring further self-confidence for younger users who spend a lot of time online.

“When children are exposed to technology at high rates, their brain may adopt an internet approach to thinking – quickly scanning and processing multiple sources of information,” (How Technology Affects Child Development, n.d.). According to Florida Tech Online, this alteration of the brain, or technological influence plays into various aspects of human development which is relative to Erickson’s stages of psychosocial development, and Jean Piagets’s Theory of Cognitive Development which “suggests that children move through four different stages of mental development. [Focusing] not only on understanding how children acquire knowledge but also on understanding the nature of intelligence” (Cherry, 2020). And back to Bandura’s Social Learning Theory about how our environment creates us, but also we create our environment (McLeod, 2016). What this is showing is that technology has a psychological impact. Good or bad, it exists.



So* ~~Ao~~ like, how do you create a good environment and discern between things as an adolescent

How do you know to protect yourself

Ah, I see. I think learning to once again cultivate an environment where you’re not always over simulated and or saturated with aimless information. I think there’s a lot of noise growing up Metaphorically and physically in an online world as a young kid, and the way to protect yourself involves I guess having more boundaries on the web and making sure you don’t fall into the trap of soaking in all the propaganda or living a facade while you’re trying to grow up and get to know yourself. In adolescence the sense of self isn’t even there yet, so I feel like that needs to be protected heavily so you’re not influenced and pulled so thinly before one even knows themself

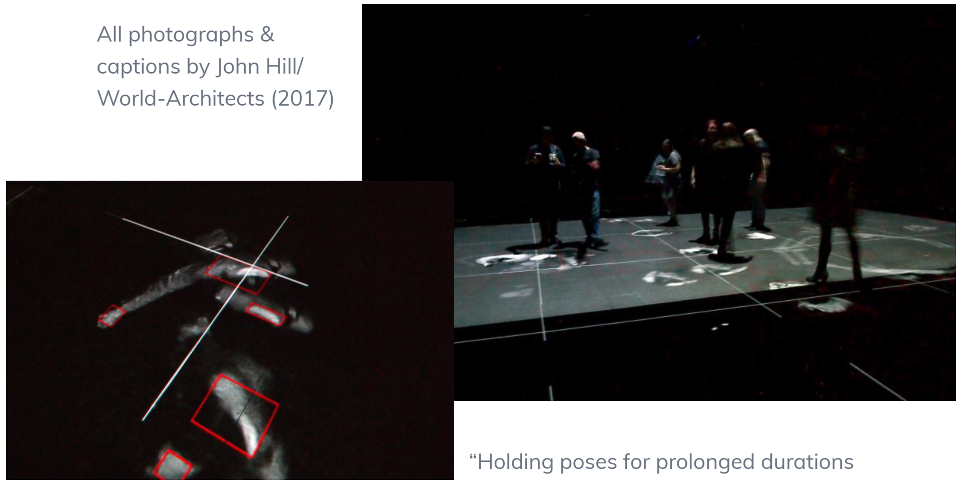
Student response to my question posed through zoom

RELEVANT ARTISTS

To me and my work

In this increasingly digital era, artists also notice the impact of social media and online living. A few artists who have stood out to me comment on different aspects of privacy, perception, and relationship building.

They include:



All photographs & captions by John Hill/ World-Architects (2017)

Hansel & Gretel, 2017

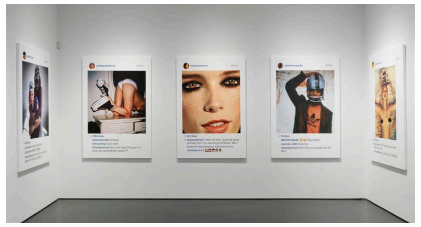
“These areas invite people to congregate and trace their movements across the floor. “ John Hill

“Holding poses for prolonged durations left images on the floor that would slowly recede into darkness.” John Hill

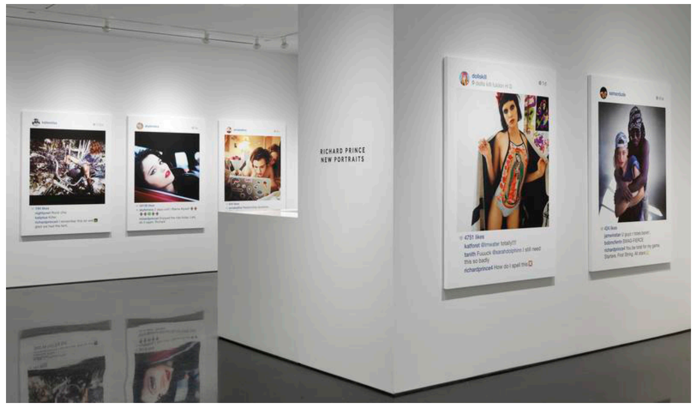
AI WEI WEI

Ai Weiwei’s *Hansel & Gretel* is inspired by privacy, technology, surveillance, and the Chinese government. This is super relevant to my thinking and work as everything one does online is being tracked. There is a major breach of privacy and data control, and the younger age groups online, do not have as much time to be discerning with the constant influx of new information. This work relates to social media use, youth and tracking, and creating an interactive environment for people to learn about the feelings of surveillance. Online privacy is becoming a more important issue in today’s world but there is a dialogue here about users creating information and providing it, versus, it is revealed and stored without their knowledge.

Hansel and Gretel prompts participants to think about their right to privacy. On a larger scale this means surveillance cameras and drones monitoring our movements, but on a smaller scale it also includes the fact that every man and their dog now has a camera phone that can be used to invade someone else’s privacy.”



New Portraits- Richard Prince, Galerie Gagosian, New York –2014

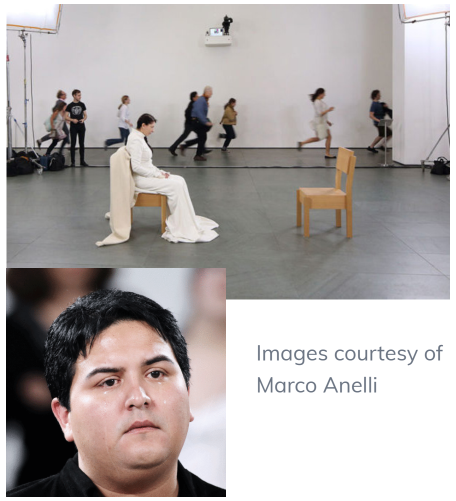


Images courtesy of Richard Prince's website: richardprince.com

RICHARD PRINCE

New Portraits (2014), by Richard Prince, highlights the "increasing freedom of artists in their artistic practice and approach (it seems that everything can be art as long as its creator decided to call it so), and on another hand the limitless sharing of private data by social media users without real regulation," (Artsper Magazine, 2015). The work and the process of creation speak to the issues not only of ownership and privacy, but also to the idea of how once something is posted online, there is only so much you can do to control what it becomes. Younger generations that plant electronic seeds can only cultivate the content and protect it for so long. The internet is vast, and things can be taken out of context and applied to fit different narratives.

MARINA ABRAMOVIC



Images courtesy of Marco Anelli

The Artist is Present, 2010

Marina Abromovic is a Yugoslavian performance artist best known for her work, The Artist is Present, at the MoMA in 2010. She sat in a room across from an empty chair, open to anyone, for six hours each day from March 14th, to May 31st. Strangers were invited to sit and share her gaze for as long as they desired, allowing for an extended period of vulnerability to form. Ryan Lader writes in his capstone essay, The Artist Is Present and the Emotions Are Real: Time, Vulnerability, and Gender in Marina Abramovic's Performance Art, " the vulnerability created by Abramovic in her audience allows her to reveal suppressed sadness within the participant." (2010). Her piece for me highlights the natural desire for human connection and the importance and beauty of vulnerability relative to the in-person human experience.

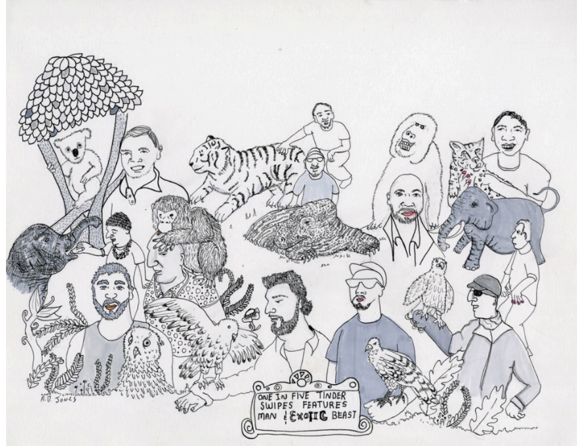
AN XIAO

Image courtesy of James Wagner

The Artist Is Kinda Present, 2010

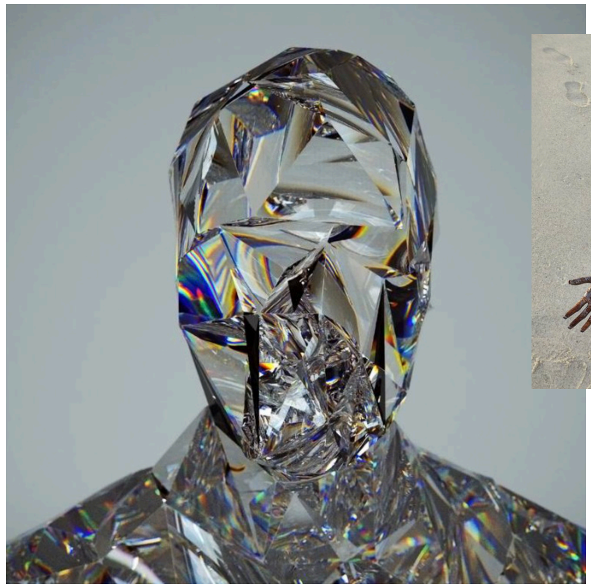
An Xiao's MoMa piece titled "The Artist Is Kinda Present, 2010" is a great illustration of technological relationships as she had conversations with viewers via Twitter while remaining in the same room. Participants could come and interact for as long as they were interested. This piece falls within an area of "social-media art" that explores human relationships through the mediation of technology. This is an important idea; how to foster personal relationships (meaning at least two people are needed) while living with social media and technology. It is a test of attention span and desire for connection, and does not allow for physical interaction, but instead highlights the virtual emotional distance when communicating online. When making the piece CAN you hear me, this piece was at the forefront of my mind, along with Marina Abromovic's The Artist is Present. An Xiao's work was inspiring as I thought about personal relationships. When we take in-person connections and filter them through an online environment.

AUDREY JONES

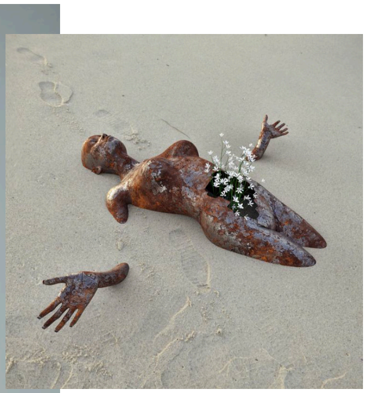

ONE IN FIVE TINDER SWIPES FEATURES MAN & EXOTIC BEAST

Tinder Diaries, illustration courtesy of Audrey Jones

Audrey Jones is a southern artist whose illustration series, Tinder Diaries, "highlights the aspect of digital communication that allows us to hide behind a screen and say things we might not otherwise say in person," (Cooray, n.d.). As someone who has used Tinder previously, and watched the memes and other content develop from people's experiences with the app, the illustrations and threads she pulls from her experience are comical and relatable. She highlights how people will use online platforms for in-person connections. While my thesis focus is not on dating applications, this work is relevant to reveal both the lighthearted and deceiving nature of being on social platforms.



Self Reflection, 2018

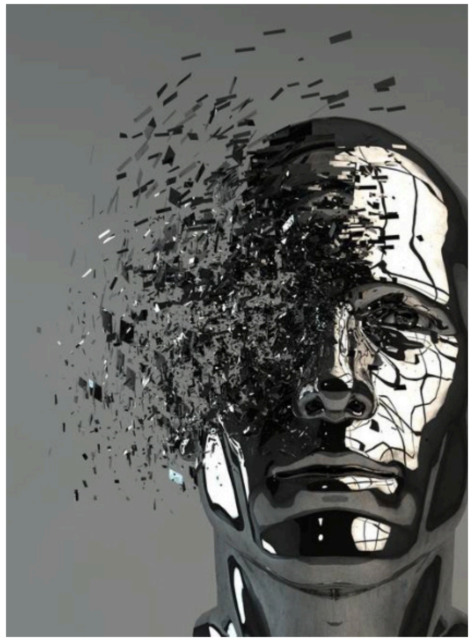


Life, 2020

Images courtesy of Gregoire Meyer, from Saatchi art

GREGOIRE A. MEYER

Gregoire A Meyer is a digital illustrator who creates work based on the intersection of digital identities and the real self. There is an interesting comparison between fact and fiction, but also identity and integration. His works illustrate the blurring of lines as people create digital versions of themselves. His work leads you to ask yourself, is there a difference between the digital and real self? What role does presence play? This is an important question, not only for personal understanding of oneself but also as it relates to building relationships with other people, online and in person. I thought a lot about the idea of presence when making my works. This idea also left me to reflect on how I use social media to project myself vs. being in person. What I found was that, when I was younger, I would project more of a structured image of what I thought people wanted to see. Now I don't post as much, but when I do, I still think about how all of my posts look together; what my page says about me. But it doesn't matter as much as it used to, and I'm happy about that.



Shattered, 2013

Contextual Research Closing Remarks

Within my work I want to strengthen human: human connections, reintroduce humans to one another because we have become so reliant on technology and thinking in fast-paced ways as adults, that now we are training kids to adapt to that same mindset through an introduction to technology at young ages. Children (arguably) now have a surrogate form of attachment to technology rather than to their parents, or to one another. Whether or not children form a new attachment to technology and social media, is not the point. The point is that it happens. Developing, malleable brains are now focused on a device to bring them entertainment rather than their own surroundings or relationships with others. Children are undergoing technological conditioning. Keeping this in mind, throughout my DMI experience I have tried different ways to use technology as a facilitator of discussion and human: human interaction. I have always wanted to inspire healthier dynamics and relationships. My case studies you will see in the following sections highlight how digital interfaces could be used to bring people/different generations together, rather than leaving them in virtual isolation.

Senior night game, last time on the turf field but I still find rubber bits in my sports bag

CASE STUDY #1

TELLER TALES

PART II

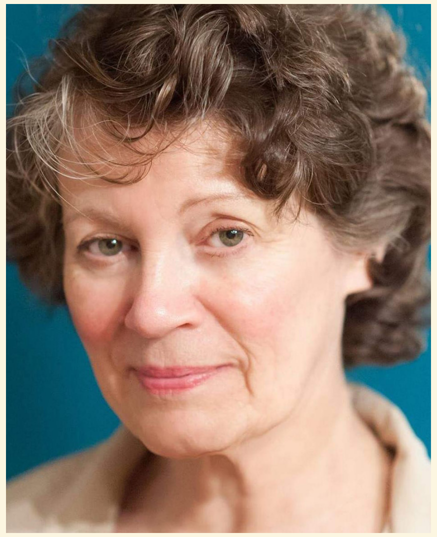
TELLER TALES

People + AR + Road Atlas = interactive storytelling experience

Intro

Teller Tales is a new storytelling interface that offers documentation of personal narratives and memories. It is an experience inspired by the stories that my grandmother tells me as we talk on the phone. I wanted to provide a new avenue of communication via a living map of stories and histories. I am not fully convinced AR is the best approach for where the technology is today, but Teller Tales was a great beginning to test what could work.

I used a road atlas as a way to link stories to particular places. I chose to combine analog and modern technology in hopes of inspiring curiosity and engagement. Atlases are more familiar to older generations, whereas AR technology is more familiar to younger ones. So it made sense to use them together to help the technology gap. This project makes it so a grandparent could share their history with their grandchild, and there would be a way to keep the story. This would appear through icons and audio linked to places on the map in augmented form.

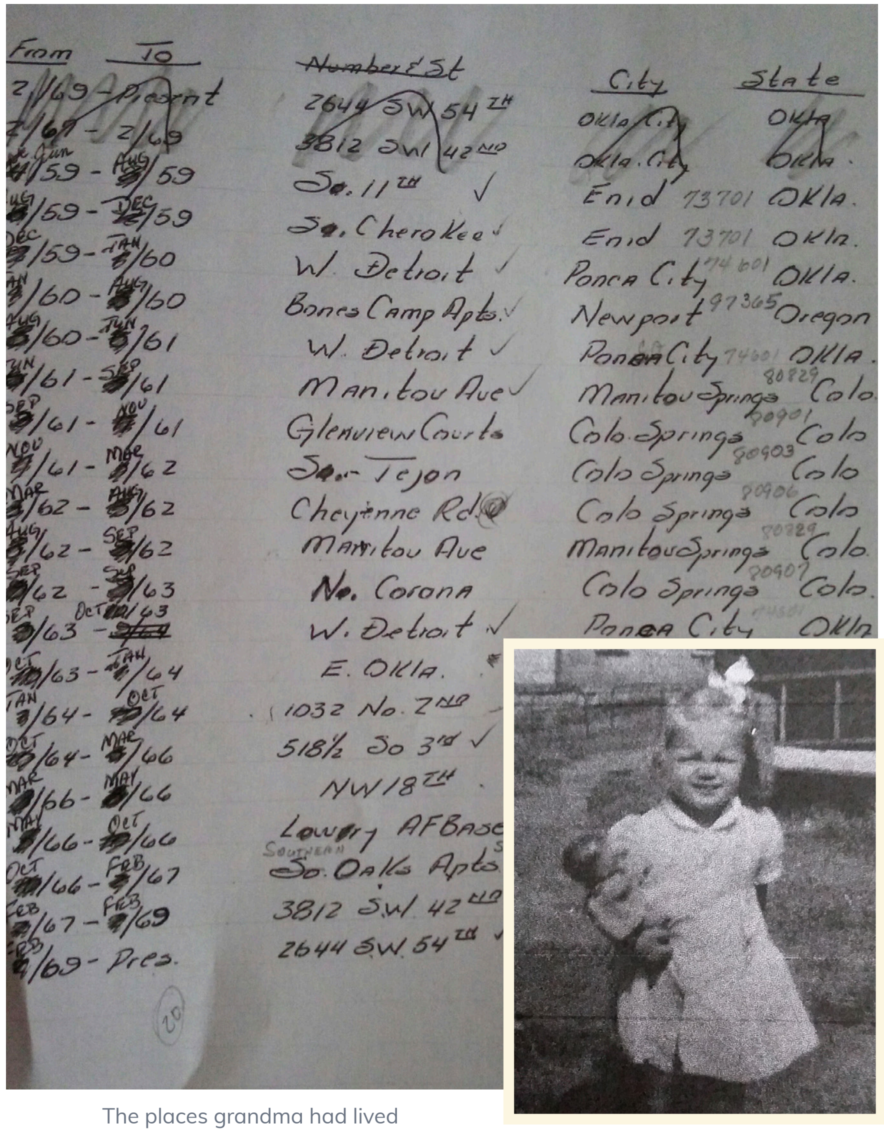


Portrait of Grandma that mom took while I was in high school

I sleepy

Apparently this was my first time eating cotton candy and I really enjoyed it

"First time at circus and eating cotton candy"



From	To	Number & St	City	State
2/69	Present	2644 SW 54TH	Okla City	Okla
2/67	2/69	3812 SW 42ND	Okla. City	Okla.
Jun/59	Aug/59	So. 11TH ✓	Enid 73701	Okla.
Aug/59	Dec/59	So. Cherokee ✓	Enid 73701	Okla.
Dec/59	Jan/60	W. Detroit ✓	Ponca City 74601	Okla.
Jan/60	Aug/60	Bones Camp Apts. ✓	Newport 97365	Oregon
Aug/60	Jun/61	W. Detroit ✓	Ponca City 74601	Okla.
Jun/61	Sep/61	Manitou Ave ✓	Manitou Springs 80829	Colo.
Sep/61	Nov/61	Glenview Courts	Colo. Springs 80901	Colo
Nov/61	Mar/62	So. Tejon	Colo Springs 80903	Colo
Mar/62	Aug/62	Cheyenne Rd.	Colo Springs 80906	Colo
Aug/62	Sep/62	Manitou Ave	Manitou Springs 80829	Colo.
Sep/62	Sep/63	No. Corona	Colo Springs 80907	Colo.
Sep/63	Oct/63	W. Detroit ✓	Ponca City	Okla
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Jan/64	Oct/64	1032 No. 2ND		
Oct/64	Mar/66	518½ So 3rd ✓		
Mar/66	May/66	NW 18TH		
May/66	Oct/66	Lowry AF Base		
Oct/66	Feb/67	Southern So. Oaks Apts		
Feb/67	Feb/69	3812 S.W. 42ND		
Feb/69	Pres.	2644 S.W. 54TH		

20

The places grandma had lived over time - a list she made

Grandma at about age 5 or 6

The project began by responding to the question, "How can AR address the needs of a community, connect people, and help us live better lives?" This was a challenging question for me because I immediately was thinking about how we use it in our current lives. We use augmented reality for map directions, measurements, games and even seeing what furniture would look like within our spaces. I wasn't sure about the new applications for AR.

I thought of older generations and my grandparents. I try to call my grandmother each week to check in and catch up. She has an iPad and an Android phone, but I know how difficult adapting to new technologies can be for her and grandpa. It was from these conversations and my base knowledge about how elderly and older individuals are cared for/even taken advantage of, that inspired me to do more research into the area of care and loneliness.

Below are my initial research questions from Sophie Hodara, Professor of my Virtual Reality for Designers & storytellers course, and my responses:

WHAT?

I want to address the loneliness people are facing and learning to cope with, primarily relative to older individuals, but it is also a system that would be open to anyone else who wants to use it regardless of age etc. I am trying to focus on the elderly population who have been primarily isolated as of late. Cori Mintzer, DMI alum and friend of mine, is doing some great work to address this issue but next class I will be able to go further in depth about this topic.

HOW?

So I have narrowed it down to essentially one project with two parts.

1. A message sharing system using AR + books or some sort of physical component that would be passed back and forth between i.e. a grandparent & family member (grandchild) as a way to share stories and information. Think of message recording cards or books but expanded, and potentially with a visual component. I would like to have something physical for the users but digital to keep records of their stories and words. Like a living message book.
2. The other part would be a game component. It would be fun to have glasses and link that to games that could be played with your grandparents, or older family friend/acquaintance. I was thinking about taking classic games and integrating newer technology to play and connect people at a distance. So think chess. Each player would have glasses and they could use these glasses to visualize the pieces. Then perhaps there is a small controller or buttons for the older individual to use (thinking about keeping it simple) as a means to move the pieces, or it could be voice activated. Players could be remote but still play a live game and have that sort of personal interaction.

I also want to be conscious of physical limitations and other areas when trying to research and design for these concepts - causing disorientation, ease of use, impairments/hindrances, etc. So there is plenty to think about

WHY?

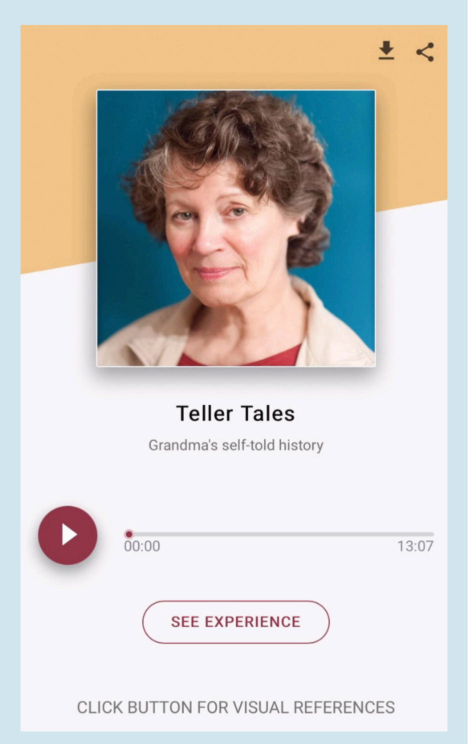
I have grandparents who are isolated on a mountain and are higher risk individuals, thus, they have been on their own for a long time since the pandemic started. I haven't seen them in about a year. Although they are not in a retirement home, they have to rely on themselves to stay entertained, even though I call and they have phones and TVs. I am hoping to figure out a way to help them and others like them feel more connected, but also have a means of sharing their life stories to create memoirs of family history logs. My grandmother always shares stories, but I can't remember everything, and although I have begun writing letters, there is no guarantee I will always get a response, particularly from my grandfather who has Parkinsons. Therefore, I want to create a fun way for them to connect and interact, while also creating new records and conglomerations of life stories and family histories.

I have always valued personal histories, where people come from, what culmination of life experiences have resulted in the person they are today. Growing up I have heard much about our/my heritage. We have a book which documents my mother's side of the family back many generations to Czechoslovakia and Scotland. But I realized that I don't know much about my own grandparents. The best way to learn is to ask, then listen, the only issue is my own memory. How am I to remember all of the details to share with my own family one day in an engaging way?

Iteration 1

I began by simply having a conversation with my grandmother over the phone, to get a better understanding of her background and home life. I wanted to listen to the content of what she was telling me to best decide on a method of approach as a way to document and share her story. We spoke on the phone for a long while. She allowed me to record bits of the conversation which I used in different iterations of the project. As we spoke I became aware of how personal this project is, for both of us. It made me cognizant of how considerate and intentional I needed to be in order to share what she was comfortable with.

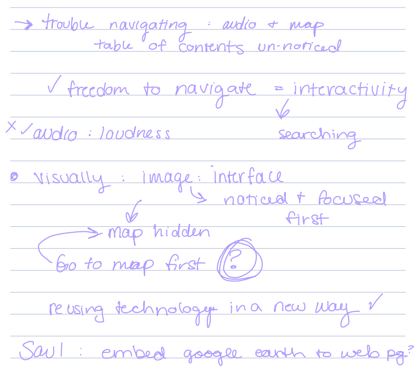
The first iteration of the project was an experimentation with Google Earth and MP3. I took the recordings and connected them to a QR code. This would link to the audio which looks on your phone the same way music playing would. But on that page is also a link to get to Google Earth so you could listen to the story and also map it to a place/street view of the area. By creating a visual and auditory experience, one could interact with the specific places as they exist today. For me, I could listen to the description of my grandmother's hometown and try to imagine the places she walked. As a visual learner myself, I thought interacting with a visual place while listening could be an entertaining and fun way to follow along.


Teller Tales
Grandma's self-told history
00:00
13:07
SEE EXPERIENCE
CLICK BUTTON FOR VISUAL REFERENCES

The audio screen and option to click for the Google Earth experience

Table of Contents
1 / 4

Google Earth screen capture



→ trouble navigating : audio + map
table of contents un-noticed
✓ freedom to navigate = interactivity
X ✓ audio : loudness
searching
• visually : image : interface
noticed + focused first
map hidden
Go to map first ?
reusing technology in a new way ✓
Saul : embed google earth to web pg?

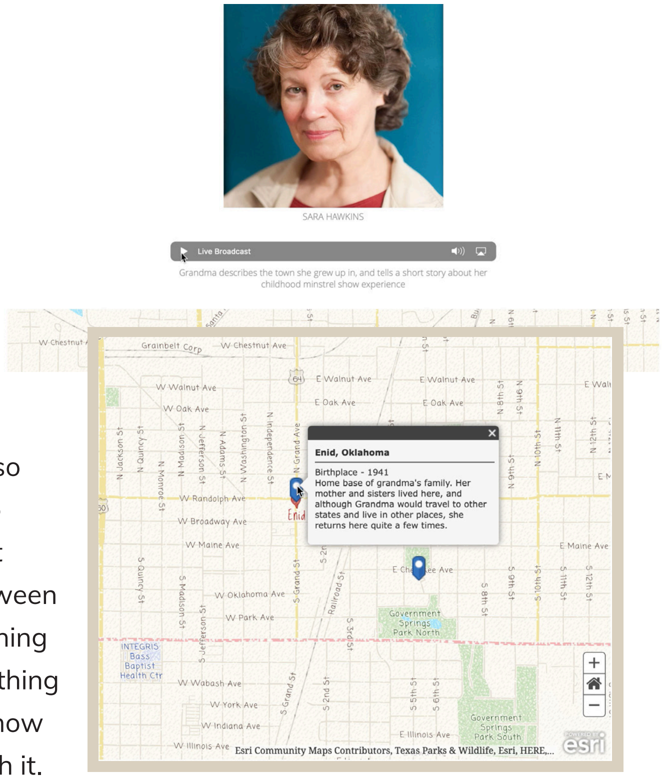
Class feedback

But I also realized that it might be too busy for some people to be able to focus. My classmates thought it was fun to play and listen to the MP3 recording, but some did not see the button that said "see experience" to get to the Google Earth page to explore the map. A few others actually got lost within Google Earth and thus had a bit of a disrupted listening experience rather than a seamless one. That being said, they enjoyed the freedom to play around and explore the globe anyway.

I was excited for this version because it made sense in my head (familiarity with the tools)and ticked the AR box through using a QR code. But while I thought that Google Earth was interesting for the freedom of exploration, I didn't account for the user autonomy that allowed people to get lost in the application. So I asked if people wanted more structure in the experience and they said yes.

Iteration 2

For the second iteration, I took the feedback and decided to create a more structured approach while still trying to incorporate an interactive mapping experience. I created a website and broke the audio into parts paired with little map sections. But this seemed to not be as fun or entertaining as the first, more immersive Google Earth experience. I agreed. I liked the freedom the map provided but I didn't think I had the technical capability to be able to structure Google Earth for a better experience. My classmates also seemed to like the idea of having something physical to interact with. Especially since at the heart of the project was creating an area for dialogue and interactions between older individuals and younger family members. Maintaining a physical object was important for me. I wanted something physical that would be sent back and forth since you know the other person would be touching and interacting with it. It makes the project feel more personal than just sending voice messages over an electronic interface. Your attachment to an object is different from that of a screen, I believe, because an object doesn't change its content but a screen does.



SARA HAWKINS

Live Broadcast

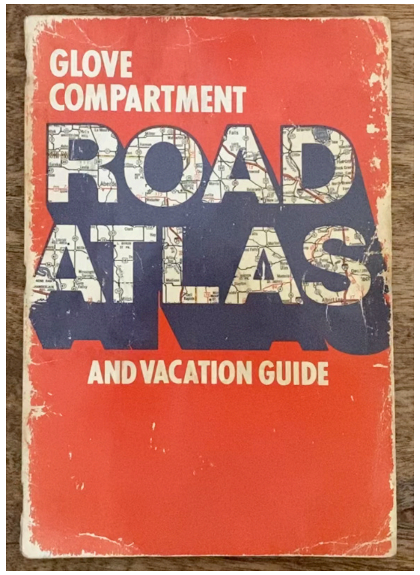
Grandma describes the town she grew up in, and tells a short story about her childhood minstrel show experience

Enid, Oklahoma

Birthplace - 1941
Home base of grandma's family. Her mother and sisters lived here, and although Grandma would travel to other states and live in other places, she returns here quite a few times.

Grainbelt Corp
W Chestnut Ave
E Walnut Ave
W Walnut Ave
E Oak Ave
W Oak Ave
N Jackson St
N Quincy St
N Monroe St
N Madison St
N Jefferson St
N Adams St
N Washington St
N Independence St
N Grand Ave
W Randolph Ave
Enid
W Broadway Ave
W Maine Ave
E Cherokee Ave
W Oklahoma Ave
W Park Ave
Railroad St
Government Springs Park North
INTEGRIS
Esri Community Maps Contributors, Texas Parks & Wildlife, Esri, HERE,
esri

Website format with an interactive map. But the map only has a streetmap view



Road atlas gifted to me by a family friend

Iteration 3

I decided to experiment with a physical map. Turns out, a family friend actually had an old road atlas that they said I could keep. I used Adobe Aero to design with AR mapping overlays and 3D animations. It was here that I finally figured out a speculative vision for how the project could look. I was really excited about playing with Aero objects and mapping, but I knew that if I gave this to my grandma to use on her own, she would have no clue what to do and how to start/stop the experience. There is also the issue of having to use glasses other than her own to view the experience.

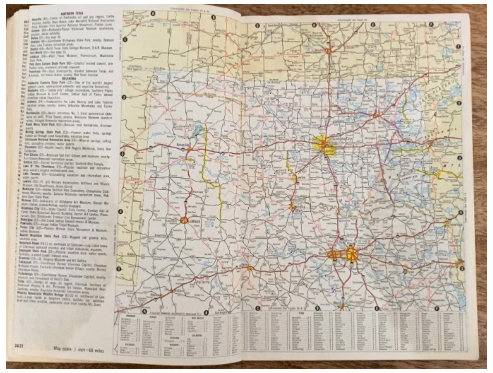
Using augmented reality within glasses for older individuals can be very disorienting. For this reason, I think there could be other avenues of approach such as RFID. I did, however, decide to use AR glasses to meet class expectations, and also as a way to explain how the project could work conceptually. It felt like a good way to share the idea with other people. To summarize the final experience, the project became comprised of a few components:

1. A physical map to be able to locate places and connect stories to
2. A pen to record the stories and pinpoint specific locations/routes, which the individual storyteller would use
3. Glasses to be able to see the visuals of the story being told

In theory, these items would all be used together, but there is a question of how distance could affect the story-sharing experience.

The whole point is to send something back and forth, taking the time to put it in the mail and ship it out. But this could cause issues financially, or even physically for some older individuals. Perhaps one way to circumvent mailing would be to have two sets of everything.

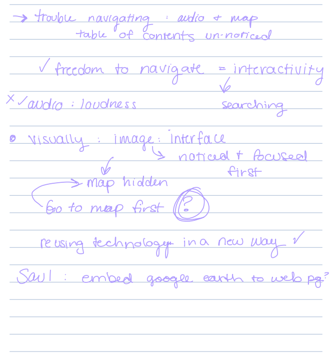
For example, you would need two books, two pens, and two sets of glasses (one for grandma and one for me). Could it be more centralized? I think there are a few different ways to approach this.

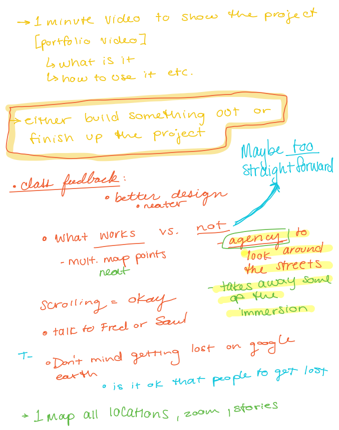


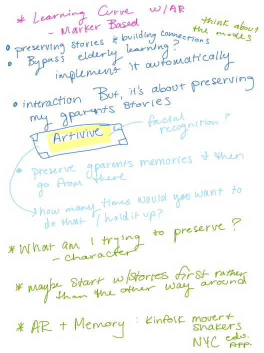
Road atlas which I paired with Adobe Aero

1. The book is the component shipped back and forth to record stories. This provides a bit more intimacy through contact with a physical item you know was in the presence of your loved ones.
2. Nothing needs to be shipped at all and stories are stored and shared with solely technological means, (think iCloud, or internet, Bluetooth, applications, etc.) This would be the 2-of-each scenario I mentioned above.
3. A projection visual, mapping the story route. It would be geared toward the end of the day. That way there is a dedicated time to sit and respond to the story because one would have to wait for it to get dark unless one were to find a dark space to listen and watch. The only issue is that for older individuals, relying on a darker area could be difficult, thus, maybe there is a different way to approach the timing issue.
4. Holograms become a real-world use and we can use that technology instead of glasses! This would be my preference. Otherwise, it could be a screen-based + physical item and pen interaction.

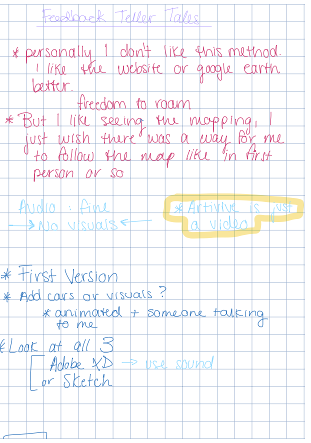
Notes & feedback from each class


→ trouble navigating : audio + map
table of contents un-noticed
✓ freedom to navigate = interactivity
searching
X ✓ audio : loudness
○ visually : image : interface
noticed + focused first
map hidden
Go to map first ?
reusing technology in a new way ✓
Saul : embed google earth to web pg?

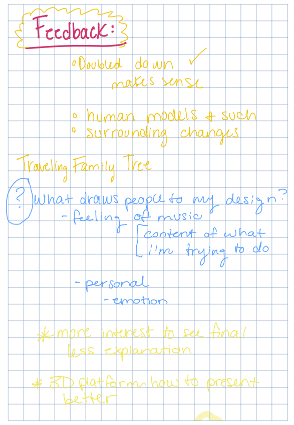

→ 1 minute video to show the project
[portfolio video]
↳ what is it
↳ how to use it etc.
→ either build something out or finish up the project
• class feedback:
○ better design
○ neater
Maybe too straightforward
○ what works vs. not
- mult. map points
neat
- agency to look around the streets
- takes away some of the immersion
scrolling = okay
○ talk to Fred or Saul
T- ○ Don't mind getting lost on google earth
○ is it ok that people to get lost
→ 1 map all locations, zoom, stories


* Learning Curve w/AR
- Marker Based
think about the models
○ preserving stories & building connections
○ Bypass elderly learning?
implement it automatically
○ interaction But, it's about preserving my gparents stories
Artivive
facial recognition ?
○ preserve gparents memories & then go from there
how many times would you want to do that / hold it up?
* What am I trying to preserve ?
- character
* maybe start w/stories first rather than the other way around
* AR + Memory : Kinfolk movers shakers
NYC edu. App.

Through each iteration, I changed the project based on the feedback I received from my classmates. The interactive narrative component of this project is really the whole purpose for helping to facilitate deeper relationships between people through the sharing of narratives and personal reflections. I wanted children and their grandparents to have a specific opportunity to share stories with one another. The use of augmented reality and physical objects allows for different generations of technological experience to come together. This was a beneficial project in terms of really thinking about the interaction people would have with the story through a digital interface, along with the autonomy the participant would have to customize their experiences. Teller Tales could become a living document and record of life stories and interactions.


Feedback Teller Tales
* personally I don't like this method. I like the website or google earth better.
freedom to roam
* But I like seeing the mapping, I just wish there was a way for me to follow the map like in first person or so
Audio : fine
→ No visuals ←
* Artivive is just a video
* First Version
* Add cars or visuals ?
* animated + someone talking to me
* Look at all 3
Adobe XD → use sound
or Sketch

The purpose is to use technology as a facilitator for human: human interaction. Stories naturally create an opportunity for dialogue. Through this project, you can map one's life story and hopefully build stronger and more intimate connections to one another.


Feedback:
○ Doubled down ✓
makes sense
○ human models + such
○ surrounding changes
Traveling Family Tree
? What draws people to my design?
- feeling of music
content of what i'm trying to do
- personal
- emotion
* more interest to see final less explanation
* 3D platform how to present better

Things I Would Do Differently

The end result of the project through video explanation was fun and made sense to my classmates, but it wasn't fully satisfying for me as a designer and granddaughter. It seemed to be a creative way to record and share stories/facilitate interaction but I think the logistics need to be better ironed out. I think there are too many steps still, or too many gray areas as to how things would work. At the same time, my own unfamiliarity with AR possibilities felt limiting for the time span of this work. In future iterations of the project, I would love to simplify the AR interface. Although I think this was a great start, I want it to be more user-friendly, and not require much technical experience to use, thus mitigating the technical experience gaps that typically coincide with age. I hope this first version of Teller Tales is primarily accessible in its idea, to be able to highlight the knowledge and histories of those before us. I believe a stronger appreciation, and relationship is built with the sharing of personal stories. And as a designer, I want to keep building platforms and opportunities for people to come together to build more genuine relationships.

Me + Grandma & Grandpa

Poppy & Nammy (dad's parents) in FL 2021

Conversation and interaction are an important part of relationship building. When people are vulnerable enough to share their histories, relationships become stronger. Teller Tales is my way of facilitating deeper relationships through story sharing.

PROCESS VICEO

VIDEO ABSTRACT

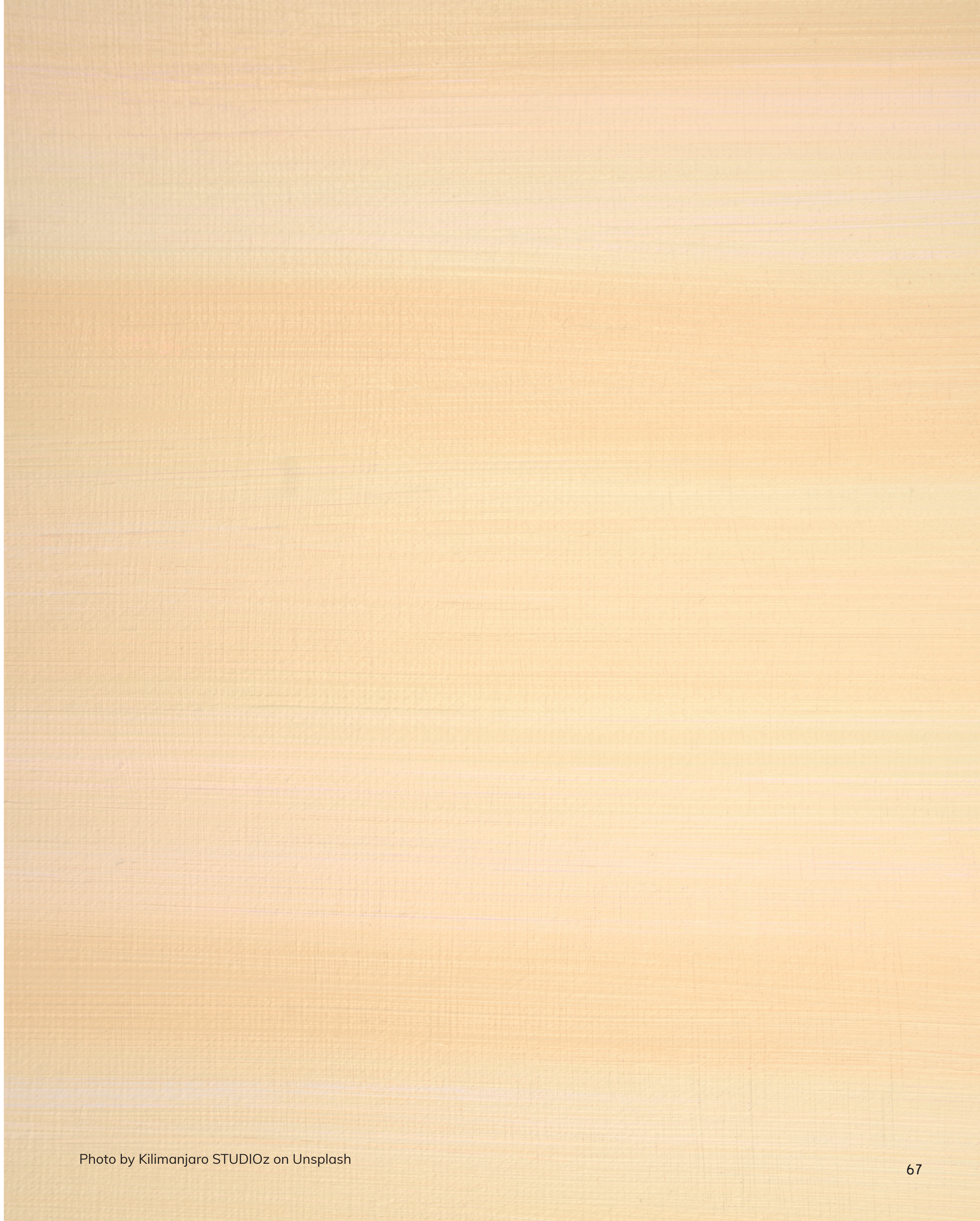


Photo by Kilimanjaro STUDIOz on Unsplash

CASE STUDY

#2

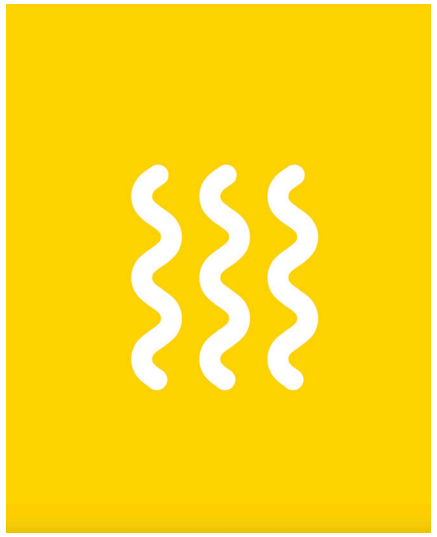
KITCHEN STORIES

KITCHEN STORIES

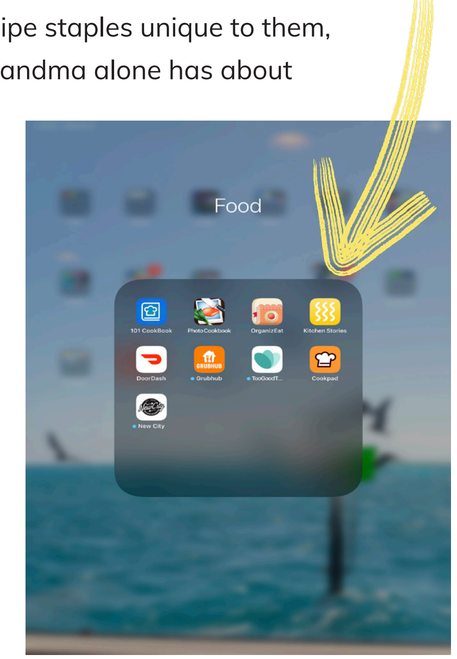
People + App interface + Storytelling & Record keeping = Digital Recipe Tree

Intro

My inspiration for this project comes from generations of cooking. My family always has large meals for holidays. We use food to bond and connect. I grew up in the kitchen beside my mom and grandmother, helping them with small tasks and burning my fingers on the stove. Food is a happy place and serves as a point of interaction for strangers, family, and friends. I was thinking about food and how it connects us, and I watched a TED Talk by Tazmeena Haque titled, "Food as a Tool for Social Connection." The talk confirmed my thoughts about food as a facilitator for connection, but also as a form of communication. Food is a universal language. Even social media is filled with food recipes. My TikTok feed alone provides countless recipe videos which I end up saving to my phone just to forget about them. Besides my own saved recipes, many families have "family recipes" or other recipe staples unique to them, their cultures, or traditions. My grandma alone has about seven versions of one cookie recipe because she changes the recipe cards each time she bakes them.

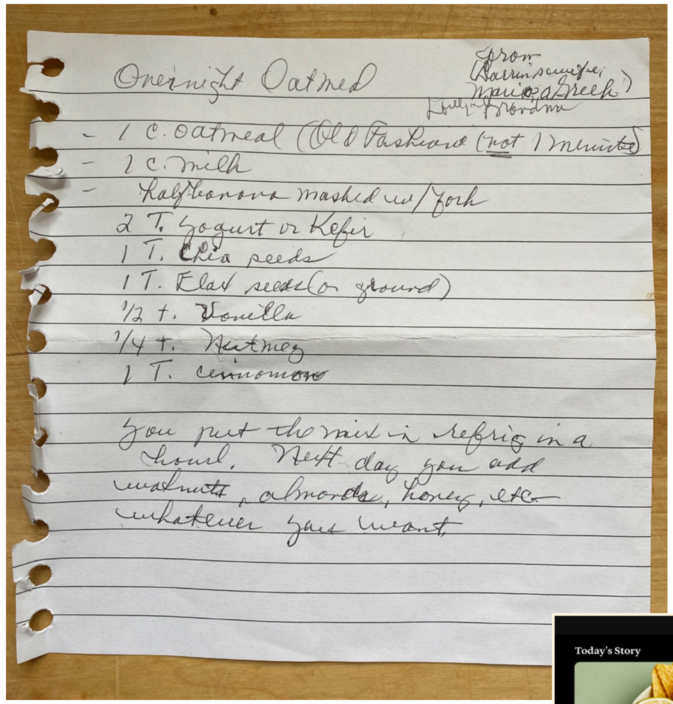


Kitchen Stories logo


Food
101 CookBook
PhotoCookbook
OrganizEat
Kitchen Stories
DoorDash
Grubhub
TooGoodT...
Cookpad
New City

iPad screen view

Recipe from grandma



Overnight Oatmeal

From
([illegible]
Maria, a Greek)
[illegible] Grandma

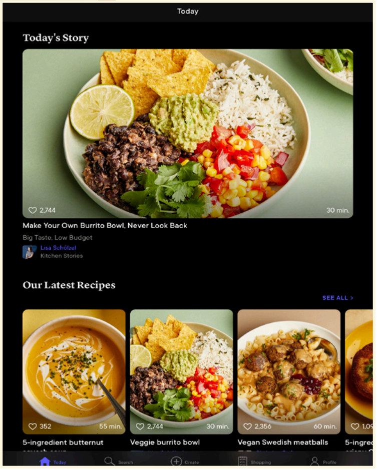
- 1 C. oatmeal (Old Fashioned (not 1 minute)
- 1 C. milk
- half banana mashed w/ fork

2 T. yogurt or Kefir
1 T. Chia seeds
1 T. Flax seeds (or ground)
1/2 t. Vanilla
1/4 t. Nutmeg
1 T. cinnamon

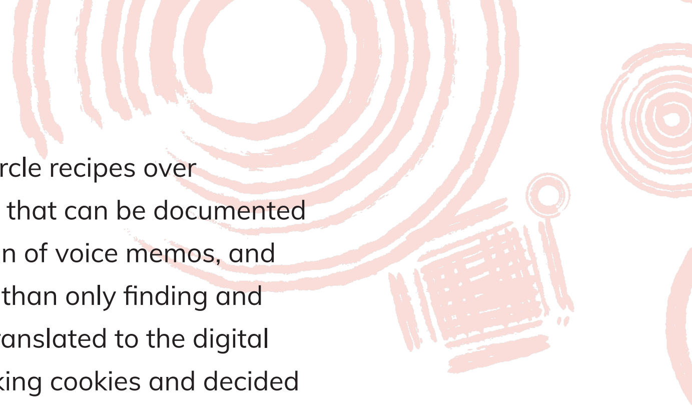
You put the mix in refrig in a bowl. Next day you add walnuts, almonds, honey, etc whatever you want.

But in order to understand the changes made, to try something new, or to hear more about the recipe family history, there has to be a resource one could access. Thanks to my Information Architecture course this past fall, I was able to take an existing app, Kitchen Stories, and create an application update that could preserve those traditions, memories, and personal recipes.

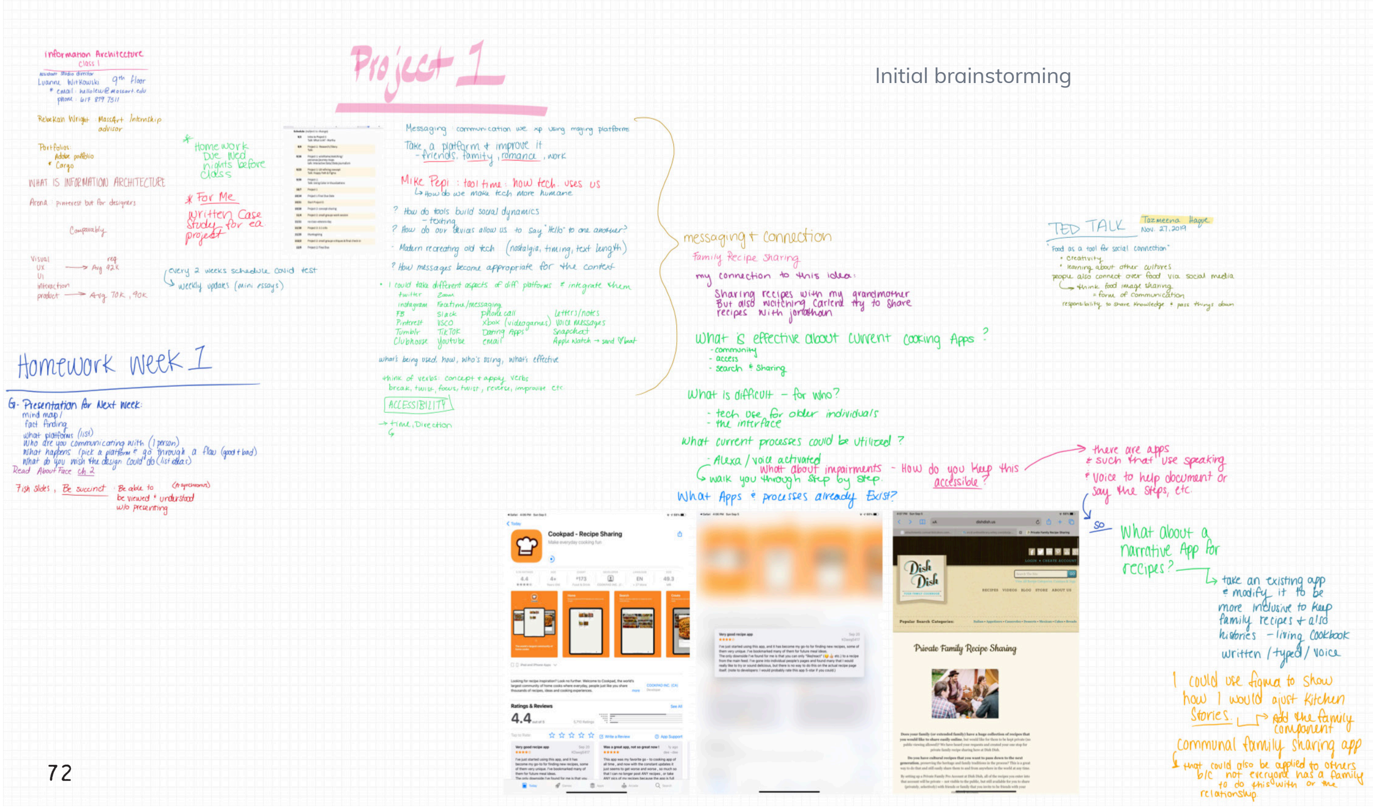
Within the pre-existing Kitchen Stories app you can search, make, and save recipes. This application is also community and curator based. Meaning anyone can download the app and contribute a recipe, but the structure is primarily built around professionals and guest chefs creating walk through content. In order to make this app more personal, I offer a new component: Family Recipe Sharing. By "family," I would also like to clarify that while I am referring to normal definitions of family, I also am including those around you who are "like family" as well, since not every individual has a biological family, or otherwise. Rather than taking a pre-existing recipe from the community or a professional and sharing it, there should be a way for families to have their own digital cookbooks which can be kept and altered for generations. This way, there can be an easily accessible "recipe family tree" which could be reflected on for years to come. This new aspect would allow not only for better documentation of histories, cultures, memories, but also serve as a new method of interaction, connection and communication between individuals.


Today
Today's Story
2,744
30 min.
Make Your Own Burrito Bowl, Never Look Back
Big Taste, Low Budget
Lisa Schölzel
Kitchen Stories
Our Latest Recipes
SEE ALL >
352
55 min.
5-ingredient butternut
2,744
30 min.
Veggie burrito bowl
2,356
60 min.
Vegan Swedish meatballs
5-ingre
Today
Search
Create
Shopping
Profile

Existing homepage layout on iPad



My app provides a way to keep inner-circle recipes over generations, while allowing recipe edits that can be documented within the app itself through the addition of voice memos, and typed or hand-written changes. Rather than only finding and saving recipes, real-life edits could be translated to the digital environment. For example, if I were making cookies and decided that using brown butter was a tastier choice than what the recipe called for, I could use my Apple pencil to mark up the recipe as if I were drawing on a recipe card. I could then leave a voice message explaining my reason and results. Or I could type the changes. Everything would be kept on a new recipe layer and this could be accessed by other family members, which may inspire more questions and comments. Facilitating discussion is derived from the alteration of the recipes. It also stems from memories and nostalgia. One cake recipe may remind me of all the red velvet cakes I've had over the years for my dad's birthday. This memory I could share within the app, via a voice memo. When my Nam (dad's mom) sees it, she may give me a call and we could catch up. This is all to say that the new recipe editing ability is intended to be a way of facilitating dialogue outside of the Kitchen Stories app itself.


information Architecture
class 1
Assistant Studio director
Luanne Witkowski 9th floor
email: hellolew@massart.edu
phone: 617 879 7511
Rebekah Wright: MassArt Internship advisor
Portfolios:
Adobe portfolio
Cargo
WHAT IS INFORMATION ARCHITECTURE
Arena: pinterest but for designers
Comparably
Visual UX UI interaction product
Avg 92K
Avg 70K, 90K
Project 1
Homework Due Wed nights before class
For Me
written Case Study for ea. project
every 2 weeks schedule covid test
weekly updates (mini essays)
Messaging: communication we xp using msging platforms
Take a platform & improve it
- friends, family, romance, work
Mike Pepi: tool time: how tech uses us
How do we make tech more humane
? How do tools build social dynamics
- texting
? How do our devices allow us to say "Hello" to one another?
- Modern recreating old tech (nostalgia, timing, text length)
? How messages become appropriate for the context
I could take different aspects of diff platforms & integrate them
twitter, instagram, FB, Pinterest, Tumblr, Clubhouse
Zoom, Facetime/messaging, Slack, VSCO, TikTok, Youtube
phone call, Xbox (videogames), Dating Apps, email
letters/notes, voice messages, Snapchat, Apple Watch → send heartbeat
what's being used, how, who's using, what's effective
think of verbs: concept + apply verbs
break, twist, focus, twist, reverse, improvise etc.
ACCESSIBILITY
→ time, Direction
Homework Week 1
G. Presentation for Next week:
mind map / fact finding
what platforms (list)
who are you communicating with (1 person)
what happens (pick a platform & go through a flow (good + bad)
what do you wish the design could do (list ideas)
Read About Face ch. 2
7ish slides, Be succinct: Be able to be viewed & understood w/o presenting (Asynchronous)
messaging + connection
Family Recipe Sharing
my connection to this idea:
Sharing recipes with my grandmother But also watching Carlene try to share recipes with jonathan
What is effective about current cooking Apps?
- community
- access
- search & sharing
What is difficult - for who?
- tech use for older individuals
- the interface
What current processes could be utilized?
- Alexa / voice activated
walk you through step by step
What about impairments - How do you keep this accessible?
there are apps & such that use speaking & voice to help document or say the steps, etc.
What Apps & processes already Exist?
so
What about a narrative App for recipes?
take an existing app & modify it to be more inclusive to keep family recipes + also histories - living cookbook
written / typed / voice
I could use figma to show how I would ajust Kitchen Stories.
add the family component
communal family sharing app
that could also be applied to others b/c not everyone has a family to do this with or the relationship
TED TALK
Tazmeena Hague
Nov. 27, 2019
"Food as a tool for social connection"
creativity
learning about other cultures
people also connect over food via social media
think food image sharing = form of communication
responsibility to share knowledge & pass things down
Cookpad - Recipe Sharing
Make everyday cooking fun
4.4
Very good recipe app
Dish Dish
Private Family Recipe Sharing
RECIPES VIDEOS BLOG STORE ABOUT US

Initial brainstorming

Phase 1: Research

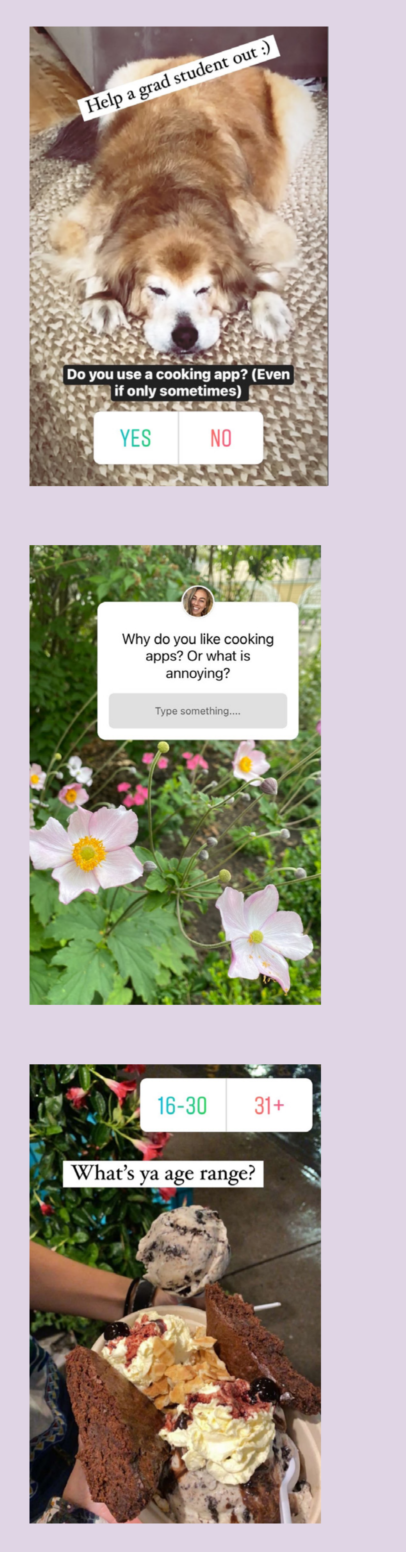
I knew from the start that I wanted to use food as my topic. During the start of this project, a family member had also sent me a letter, which had a recipe card in it for overnight oatmeal. I admired the significance of the handwriting and decided to think about how I could make cooking apps feel more personal as the recipe card did. I began my initial research by looking for pre-existing apps available for digital recipe keeping/sharing that were specific to families. The only one I found that was similar to my idea was Dish-Dish online. It wasn't fully specific for recipe recording and sharing. It's more of a platform to help organize weekly menus and shopping lists to assist families to become more organized. Plus, there weren't any features for commentary or in-the-moment thinking. While a good start, it wasn't quite what I was thinking. I didn't find any apps that seemed to meet my idea of igniting dialogue and human interaction. This was actually exciting because I felt I could create something "new."

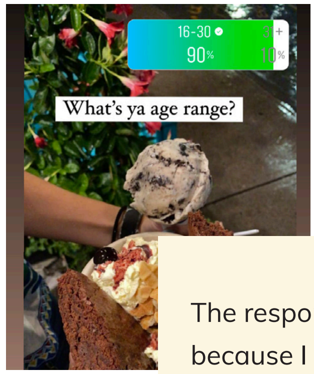
After the competitive research, I made a brief Instagram poll with a few base questions to help me create personas for my application. This helped me create ideas of who I would be creating for beside myself and my family.

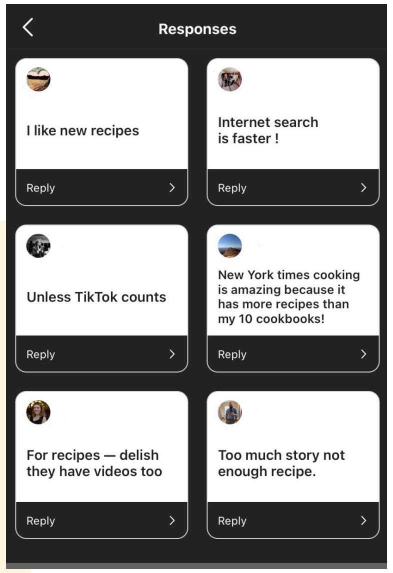
I asked my Instagram friends if they,

1. Used a cooking application
2. Why do they like cooking apps/what is annoying?
3. Age range 16-30, 31+

Instagram story


Help a grad student out :)
Do you use a cooking app? (Even if only sometimes)
YES
NO
Why do you like cooking apps? Or what is annoying?
Type something....
16-30
31+
What's ya age range?





I like new recipes

Internet search is faster !

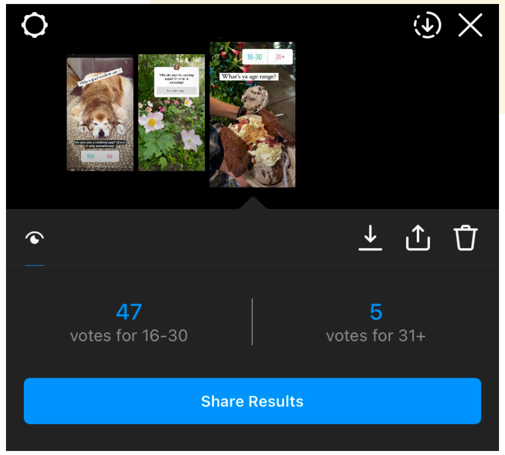
Unless TikTok counts

New York times cooking is amazing because it has more recipes than my 10 cookbooks!

For recipes — delish they have videos too

Too much story not enough recipe.

The responses I got from participants were actually surprising because I anticipated more app use from younger generations. Not many people ended up using apps in the first place but some did say they would use the internet, Buzzfeed, and TikTok to find recipes. Further feedback indicated that it would be nice to reach the recipes more easily, aka without the exposition and backstory that strangers hardly care about. I now wanted to create a more streamlined way to gather and keep recipes, stories, and commentary. More specifically, I was hoping to inspire stronger relationships through information sharing and recording. I didn't want to create pages filled with exposition and text, but I felt that adding the option to see family members' thoughts and opinions could make the digital space feel more personal. But hopefully not in a Facebook timeline sort of way.



47
votes for 16-30

5
votes for 31+

Instagram poll and responses

Informed by these insights, I decided to add the following specific features to my extension of the Kitchen Stories app:

1. Voice memos and recordings
2. Typed notes
3. Written notes (using Apple Pencil or stylus

Phase 2: Prototyping

I prototyped this project in 3 ways: Wireframing & Visual Design, Figma, and User Testing. I would like to share a little of my prototyping experience as it demonstrates my thinking as a designer. It was also where I spent most of my time and problem solving. I focused on both the *emotional experience* and the *technical* as I tried to find the most viable interface option for connection building.

EMOTIONAL EXPERIENCE

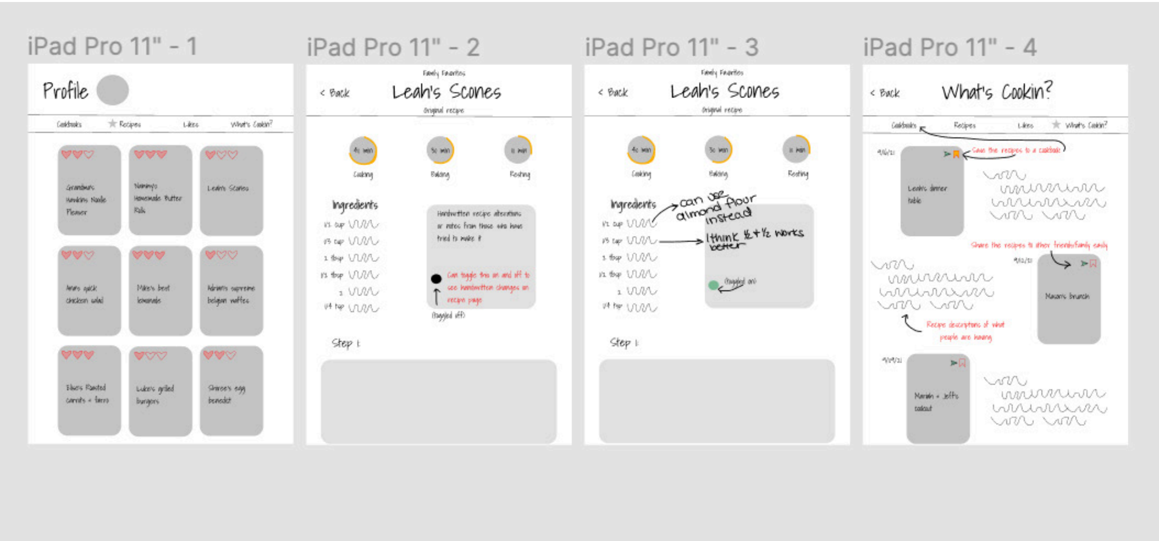
The connections people could build with the stories and notes. AKA the content. I was thinking about the meaning different recipes could hold for people, such as evoking feelings of nostalgia. Or the potential to identify with the voice messages and side notes. Because while the app serves to allow specific recipe changes, users do not have to be limited to only subbing out ingredients. There is the freedom to make note of memories and stories connected to the recipe itself. This creates a living document of histories, stories and emotions simply through the use of food.

Because I was thinking a lot about the emotional experience and connections people could build, I had many avenues to consider in regard to the physical interface. Since Kitchen Stories is an existing application, I was able to have a visual design reference to which I needed to simply modify. I did this through exploration of other applications which I will speak more on later, and also through trying to modify existing screens. I modified existing screens to help keep visual consistency when interacting with the app.

TECHNICAL EXPERIENCE

During the prototyping process, I had to mimic the appearance and styles of the app itself. This was tricky because everything needed to be done from scratch. There were no pre-made components for me to use, which was a good learning experience. I had some difficulty trying to pick a single idea and justify the exact reasons as to why I would present something in a particular way. Sometimes when designing, things just feel right in appearance or layout. I did find that looking at other apps was helpful. The interactions I had with those (Pinterest, Instagram, 101 Cookbook, Mealime), served to better inform my thinking and reasoning. It helped to ground my design choices from existing layouts. I made a strong effort to find how different app interfaces were composed, but I also was constantly considering accessibility and natural human intuition - that is, if I were using this app, would this button or interface be obvious and an easy method of interaction? How would my aunt, cousins, and grandparents be able to easily interact with the digital recipes and changes? How do I make it simple and accessible? Particularly when I want loved ones and technical abilities to be able to use this interface to help build deeper connections with one another.

Initial wireframes

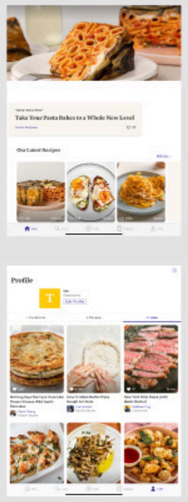


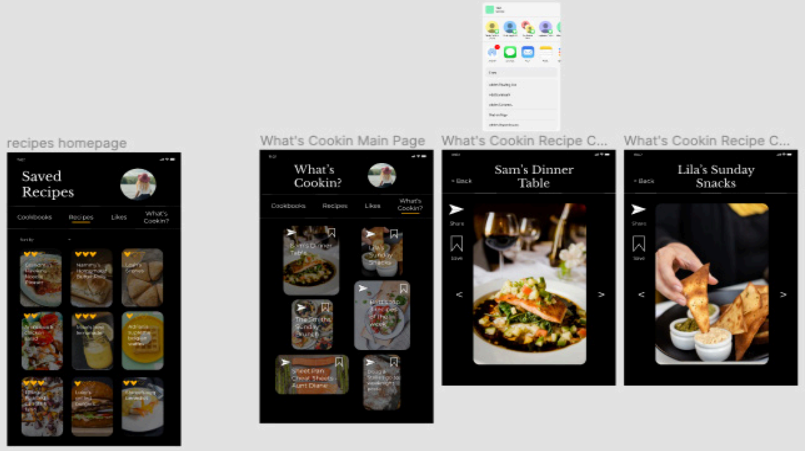
Testing & Feedback

I had to remind myself that I was designing for myself, my grandmother, my mom, and the younger, next generation of app users. I kept getting swept up in making sure all options for interactions (likes, sharing, typing, navigation, etc.) were functional. But I was also trying to be considerate of how easily someone could make changes to the recipe, particularly older individuals or those with less app/tech experience. After all, I wanted this interface to be easy and intuitive so people could be encouraged to share thoughts, opinions, and changes.
It was exciting and beneficial to finally test user flow through interactive components once I felt the interface was in a decent place. I was able to show how the flow of the app would progress from screen to screen, in real-time. Based on the comments I received about needing more type consistency, bigger button sizings, further menu refinement etc. I was able to think even more about small details within the app, and reconsider how one might engage with the various buttons, and elements on the screen to increase usability. Which, in the end, seemed to meet my goals to be easily recognizable, and fairly intuitive to access/use.

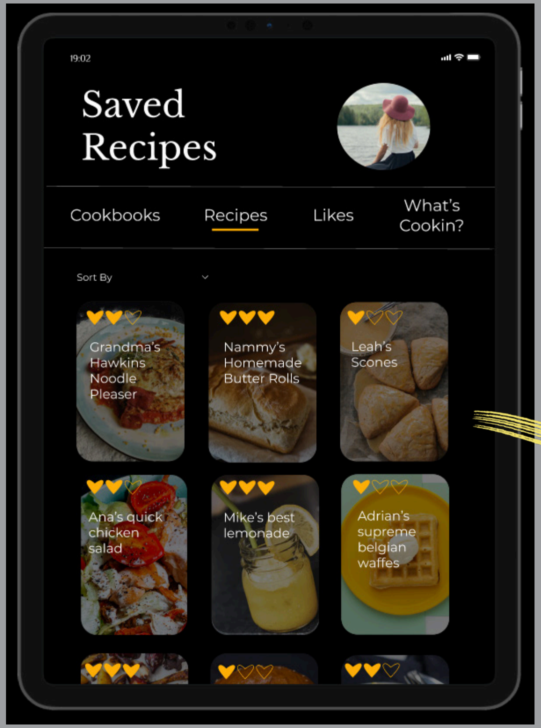
Here we have screenshots of the iPad screen as it is now, and then what you see in black are my created frames that mimic the original app and incorporate my concept of digital family recipe sharing. The "what's cookin" page is actually inspired from Pinterest's layouts although it is specific to those within your immediate circle to share recipes.

Original screens (white)



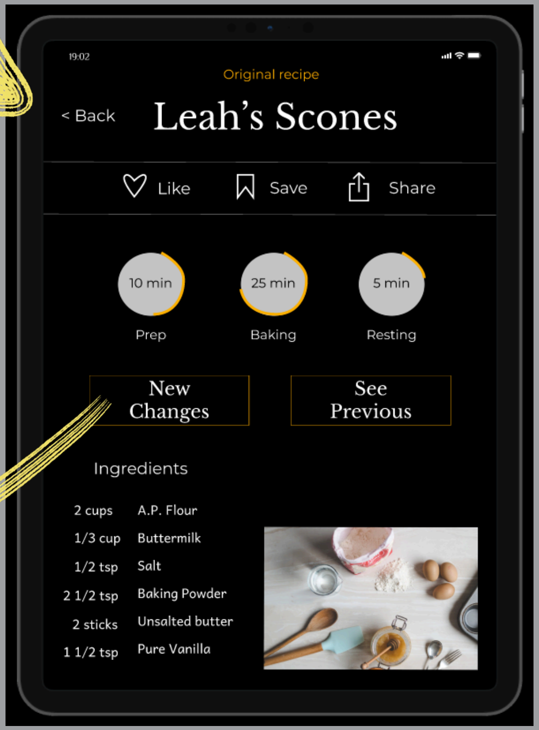


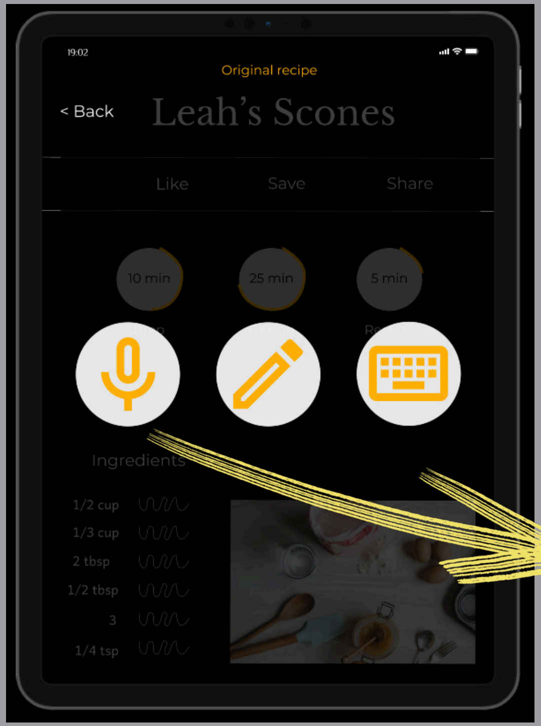
Updated screens (black)

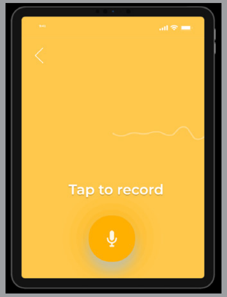

Saved Recipes
Cookbooks
Recipes
Likes
What's Cookin?
Sort By
Grandma's Hawkins Noodle Pleaser
Nammy's Homemade Butter Rolls
Leah's Scones
Ana's quick chicken salad
Mike's best lemonade
Adrian's supreme beigian waffles

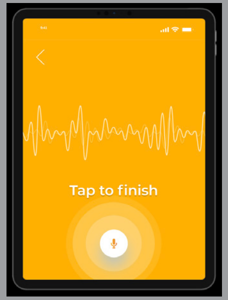
Beginning with the Recipes page, you could pick a family recipe. The hearts in the left-hand corners correspond to your personal rating system.

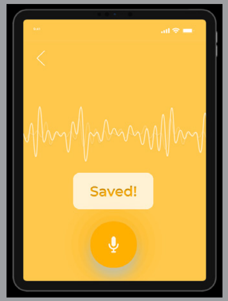
Once on the Scones page, you could choose to make new changes or to see previous ones. Over the next few pages you will be able to see the new communication/documentation features.

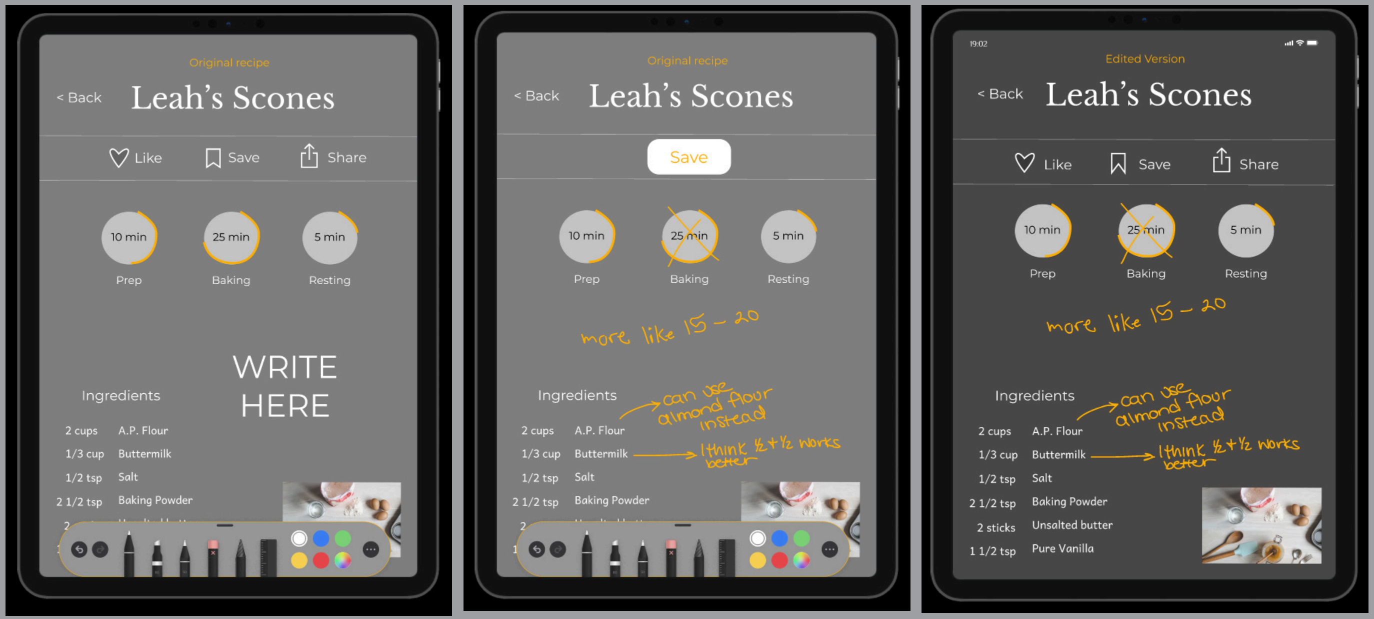

Original recipe
< Back
Leah's Scones
Like
Save
Share
10 min
Prep
25 min
Baking
5 min
Resting
New Changes
See Previous
Ingredients
2 cups A.P. Flour
1/3 cup Buttermilk
1/2 tsp Salt
2 1/2 tsp Baking Powder
2 sticks Unsalted butter
1 1/2 tsp Pure Vanilla


Original recipe
< Back
Leah's Scones
Like
Save
Share
10 min
25 min
5 min
Ingredients


Tap to record


Tap to finish

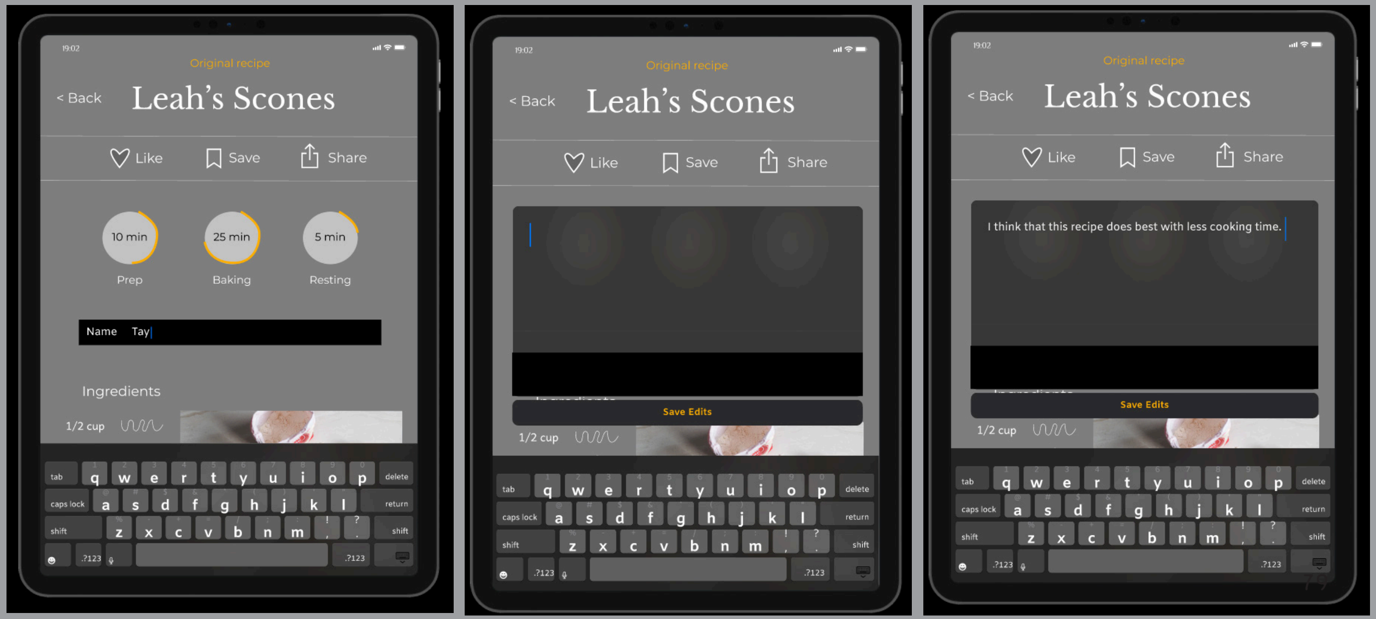



Original recipe
< Back
Leah's Scones
Like
Save
Share
10 min
Prep
25 min
Baking
5 min
Resting
WRITE HERE
Ingredients
2 cups A.P. Flour
1/3 cup Buttermilk
1/2 tsp Salt
2 1/2 tsp Baking Powder
Save
more like 15 – 20
can use almond flour instead
I think ½+½ works better
Edited Version
2 sticks Unsalted butter
1 1/2 tsp Pure Vanilla

Here is how it would work if you wanted to handwrite your changes.

Original recipe
< Back
Leah's Scones
Ingredients

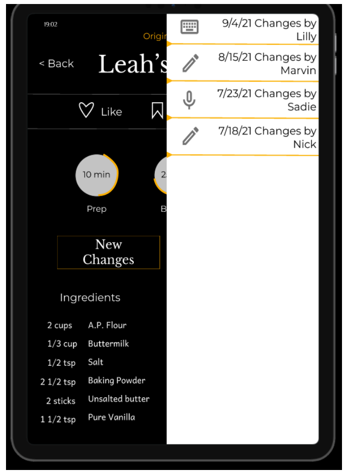
Here is how it would work if you wanted to type your changes.


Original recipe
< Back
Leah's Scones
Like
Save
Share
10 min
Prep
25 min
Baking
5 min
Resting
Name Tay
Ingredients
1/2 cup
Save Edits

I think that this recipe does best with less cooking time.

Final Results

Connection, communication, and documentation are topics of focus in this work. I hoped to provide a variety of interaction methods so that individuals would have the freedom to decide how they wanted to share/document their thoughts and changes in regard to the recipes



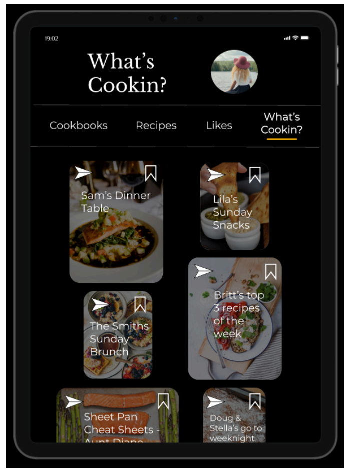
9/4/21 Changes by Lilly
8/15/21 Changes by Marvin
7/23/21 Changes by Sadie
7/18/21 Changes by Nick

2 cups	A.P. Flour
1/3 cup	Buttermilk
1/2 tsp	Salt
2 1/2 tsp	Baking Powder
2 sticks	Unsalted butter
1 1/2 tsp	Pure Vanilla

How to see previous changes and their types

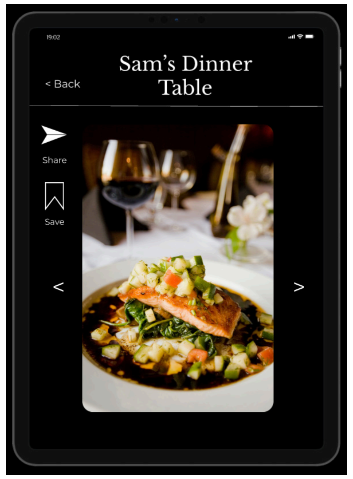
- Typing: using the keyboard to type notes if handwriting is not an option
- Audio Recording: leaving voice memos, therefore allowing to hear the voice of a loved one
- Writing (using a stylus or apple pencil): the chance to see the personal gesture of a family member

Due to the nature of these documentation methods, there are various avenues for connection and sharing thoughts. One might decide that they want to share personal stories relative to the recipe, or verbal feedback, and now they have a way to do so. Family members also now have a way to be "connected" with one another, even if at a distance, or within a different generation. My future great-grandchildren could look and see how my favorite birthday dinner potatoes are cooked, and how many different versions of the recipe I made depending on my mood that night. Plus, they could look at my notes and voice recordings for explanations as to why I made changes, although I would probably throw in a random story, or song here or there knowing myself.



What's Cookin family recipe page: where everyone can make and share their recipes

What's Cookin close up view



The final prototype, while still harboring grand potential for further detail enhancements, is in a strong place to be tested and adjusted. I would love to further simplify the screen visuals and editing options to make sure that making and reviewing edits is intuitive and easy. Perhaps other versions could have a live call button so people could cook together in real-time.

Moving forward from this project, I hope to continue thinking about communication, sharing methods, and means of interaction between individuals, groups, and communities. This version of the project is certainly only the tip of the iceberg in terms of what can be done to help commemorate family traditions, stories, and a piece of a person's individuality. I am happy with the piece as it lives within Figma, but I would be very interested to put it through larger-scale user testing. I would like to see if my ideas translate well for different people and ages. My mom and partner enjoyed clicking through the Figma prototype, but I would like to gather a slightly larger audience.

This work helped me to explore how technology, specifically an app interface, can be a facilitator of discussion and relationship building. I feel this Kitchen Stories add-on provides a fruitful area for interaction and insight for families about one another. I am grateful to have gained (new) technical skills and to carry the research forward with me to apply in my future design work. I intend to continue to think about functionality, accessibility, logic, detail, function, and relationships as I create experiences for people through the use of digital components.

VIDEO ABSTRACT

FIGMA EXPERIENCE

Photo by Wesley Tingey on Unsplash

CASE STUDY

#3

INHALE

(MIT GROUP PROJECT)

INHALE

People + Tangibility + Synchronicity = Unity Over Distance

inHale, a teletangible device for synchronized breathing

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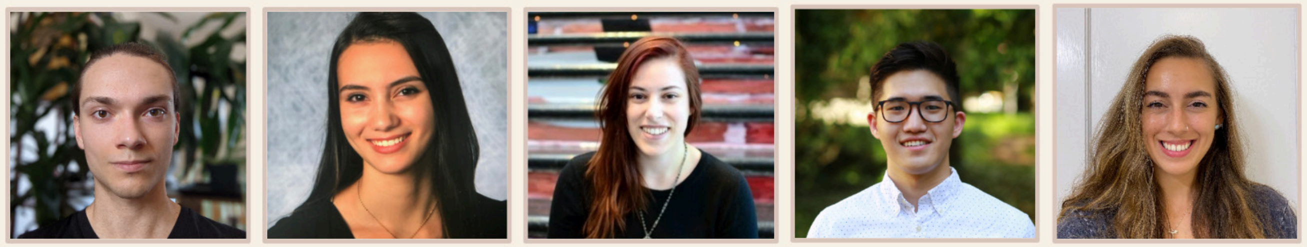
Next is the official paper followed by my personal reflections of the process and project

*These authors contributed equally to this research.



Dana Gretton
Concept Development
Hardware Prototyping
Software Prototyping
Fabrication/Assembly

Audrey Mock
Concept Development
Use Case Concept
Prelim Research
Storyboarding

Leandra Tejedor
Concept Development
Software Prototyping
Backend Development
Prelim Research

Daniel Noh
Concept Development
Form
Design/Prototyping
Prelim Research
Technical Drawings
Renders

Tatiana Baughman
Concept Development
Use Case Concept
Prelim Research
Storyboarding
Video

Abstract

In this article, we introduce inHale, a teletangible device that inspires synchronized breathing by enabling groups of individuals to create their own rhythms, patterns, and self-define their own collective metronome. With the recent outbreak of the COVID-19 pandemic, there has been a significant shift seen in the yoga community to a remote setting, resulting in a social disconnection between individuals. We propose inHale as a tool that facilitates group synchronization in remote settings through breath. This paper presents an initial, designed, functional prototype utilizing force-feedback actuation.

CCS CONCEPTS • Tangible User Interfaces • Respiration • Wearables

Additional Keywords and Phrases: Synchrony, Interpersonal Communication, Haptics, Force-Feedback

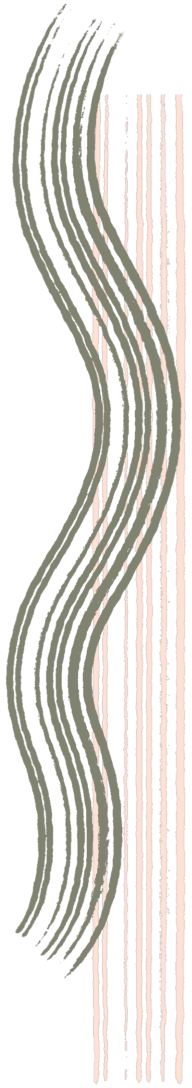
Intro

A key element of the ancient practice of yoga is controlling one's breath in order to connect the mind and the body [1]. When practiced communally, group breathing is considered an essential part of attaining a sense of unity. However, when all activities shifted online in response to the COVID-19 pandemic, opportunities for in-person connections were lost. When individuals do yoga in separate places, seeing and hearing one another over a video call does not create this same effect of unity found in in-person yoga.

inHale mimics this synchronization of breath by allowing any number of physically distanced people to feel the movement of one another's breath. inHale is a wearable device that enables individuals to feel the expansion of other participants' diaphragms as they breathe, and to contribute to the collective breath–a phenomenon usually experienced audibly in in-person environments.

Background

Existing research highlights various benefits of yoga. These areas primarily focus on both mental and physical health, along with social connection and general well-being. “Studies suggest that, as a group of yoga students breathes and moves together, a mental synchronization is taking place as well,” [2]. This correlates to social connectedness, which has suffered greatly since the start of COVID-19: “social isolation, because of a lack of social connection, can result in a deterioration in well-being with negative consequence[s] on health,” [3]. Therefore, our work strives to meet the individual desire for social connection, which would inherently lead to positive health benefits. In regard to synchronous behaviors, Mogan, Fischer, and Bulbulia state, “it has been theorized that synchronous activities increase social cohesion amongst group members, enhancing cooperative behavior” [4]. Furthermore, they state “for example, Macrae et al. (2008) argued that a social allocation of attention during synchronous action affects positive social outcomes through greater attention to and processing of the actions of group members” [4]. Which further supports the benefits of communal activities such as yoga. When speaking to a yoga instructor about their experience with virtual yoga classes, they stated, “In a yoga class, hearing other people’s breath and listening to my own breath informs how well I am listening to my body’s needs... Zoom is completely disconnected from that energy.” A virtual environment inhibits the senses one would normally be able to utilize in a live in-person class, inHale provides a new form of sensory feedback –making breath tactile.



Related Work

inHale allows individuals to meet their desire for communal connection through the application of a wearable device, which is responsive to breath. Other devices typically are used for individual regulation/relaxation, rather than to synchronize an entire collective through a form of movement. For example, aSpire is “a clippable, mobile pneumatic-haptic device designed to help users regulate their breathing rate via subtle tactile feedback,” [5]. This “non-intrusive tactile feedback” also can contribute to various health benefits, and reduce mental stress through the implementation of a wearable device. aSpire is geared toward individual use and for personal breathing regulation. It is separate from connecting other people with the same motion of taking a deep breath. But the versatility in this device is inspirational when thinking about our own work with inHale, and future iterations of the project.

Much like the preceding project, inTouch, inHale works with the same concept of “physical expression over distance” [5]. Since yoga classes are designed to allow users to feel one another’s breaths, the idea of shared touch translates. By mimicking the haptic sensation of other people’s breathing, inHale creates a new kind of shared touch.

Additionally, OmniFiber is a “reconfigurable fiber technology for movement-based interactions based on thin fluidic fiber actuators with closed-loop strain control” [6]. This device can cause the fiber to contract and expand, helping with breathing and “help patients regulate respiratory actions in post recovery” [6]. Our design was inspired by these designs, however, inHale uses a programmable spiral railing instead of making the fabric itself programmable.

Unlike the many precedent haptic wearables that affect respiratory states, inHale combines telecommunication with collaboration by introducing a group regulated tempo, rather than an externally designated rhythm.

Related Work

This prototype is designed to be a wearable haptic device that wraps around the user's chest to externally actuate the diaphragm to contract and expand in synchrony with other users.

The Concept

While most current haptic wearable research focuses on the recreation of physical sensations in virtual environments (e.g. haptic VR gloves) or embodying virtual feedback through touch (e.g. music rhythm), inHale aims to create interpersonal connections through a physical and essentially human input and output [Figure 1]. The device is strapped onto each person's chest or stomach, depending on use (e.g. singing utilizes 'belly' breathing), and buckled into the actuating belt. In the case of a chest-strapped scenario, when one participant inhales, other participants feel a slight expansion of the device, and when a participant exhales, other participants feel the contraction around their diaphragms. The expansion and contraction suggests the wearer to inhale and exhale in synchrony with the movement of the device. When synchrony is attained, the device is effectively passive.

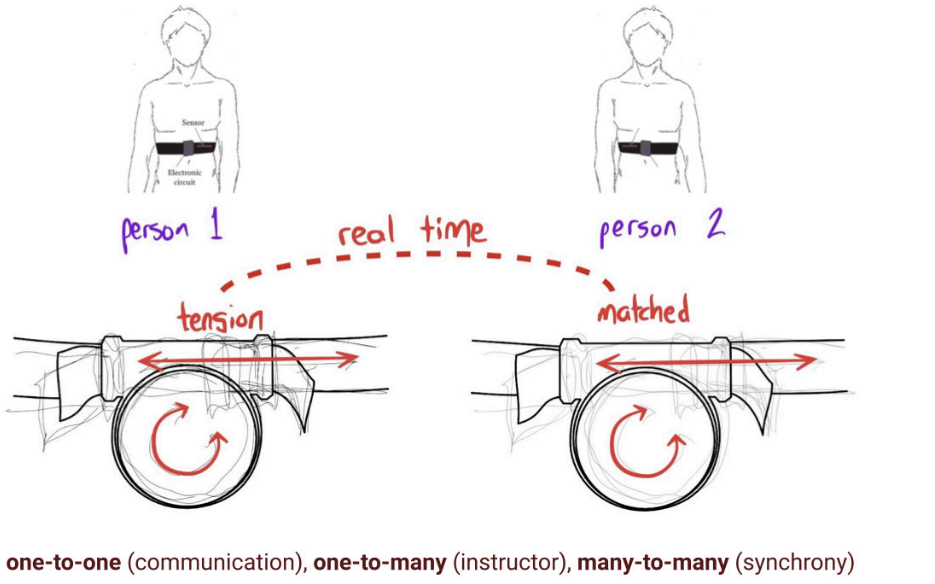

person 1
real time
person 2
tension
matched
one-to-one (communication), **one-to-many** (instructor), **many-to-many** (synchrony)

Figure 1. Conceptual sketch of real-time synchrony and the actuating function of inHale

The Design

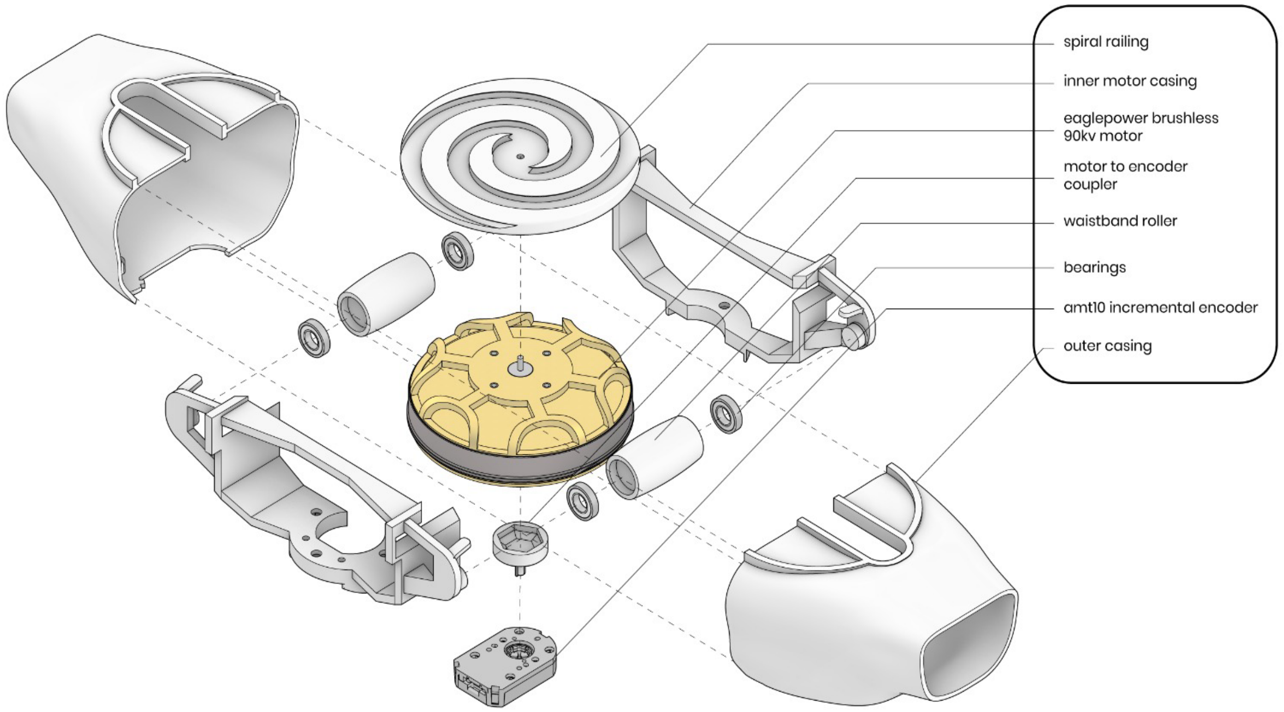

spiral railing
inner motor casing
eaglepower brushless 90kv motor
motor to encoder coupler
waistband roller
bearings
amt10 incremental encoder
outer casing

Figure 2. Exploded drawing of inHale

The current design of inHale [Figure 2] reflects both the smooth flow, inspired by the relaxed, flow state in yoga, and the need for the wearable to be minimally invasive. This iteration of inHale consists of six fundamental components: the inner motor, encoder, inner casing, spiral railing, and actuating belt. In addition, our prototype includes a large strap for physical stabilization and an outer casing to encase the device in a single, appealing package. The inner motor and encoder are controlled by a Raspberry Pi and synchronized by a server-based script. The inner casing, consisting of four 3D-printed parts and four bearings, houses the motor, fixes the actuating belt onto the device, and allows for the actuating belt to expand and contract smoothly. The spiral railing was designed to minimize the size of the device. The double-spiral design also enables the direct translation of the motor's rotational movement to a symmetrical, bilateral linear movement. Lastly, the actuating belt, comprising two straps, a buckle, and two unique, bearing-relieved 'hooks' that latch onto the spiral railing, creating the dynamic contraction and expansion of the device.

The Prototype

This prototype was built with an Eaglepower 90KV Brushless Motor, coupled with an AMT10 Incremental Encoder. We foresee that this device can be recreated with a smaller motor in future prototypes. Beyond the motor, the encoder, the bearings, and the straps, all of the fabrication was done through PLA 3D-printing, designed on Onshape, a collaborative CAD platform, and Rhino3D.

The device is powered by a Raspberry Pi and connected via a web server that synchronizes the users based on the rotational position of the device. The prototype works for any number of users.

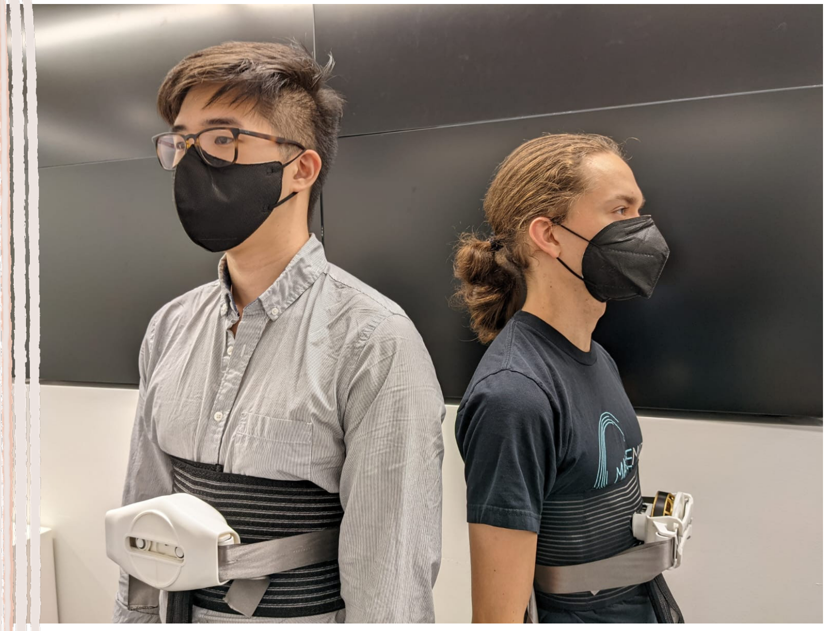


Figure 3. Two participants wearing inHale

Other/Connected Uses

Feeling a genuine connection in long-distance relationships is tricky, but there has been much research and experimentation in trying to make people feel closer and connected, primarily through the use of touch. For example, there are ample touch devices such as bracelets and lamps that can signal to a partner that they are being thought of. Harder to accomplish is a meaningful, thoughtful connection lasting longer than a few seconds. We imagine inHale as a tool for creating a space for coupled mindfulness. That is, couples in long-distance relationships would be able to set time aside to meditate with one another through the use of inHale. Through the implementation of a wearable device, “touch desire” could potentially be met, while the introduction of synchronization based on individual breathing movement would serve to increase feelings of closeness [7]. Increased mindfulness can also provide stronger relationship satisfaction [8] which is important for the success of a relationship, especially in relationships disconnected by distance.

Breath Device

Additionally, we see the potential for a personal-use breath training and meditation device. There are many different types of breath, and this device can lead wearers in specific breathwork practices. It can also guide meditation practice without sound or visuals.

Synchronous Activities

Singing music/rowing/dancing.

Conclusion & Future Work

We explored a novel tool, inHale, a tangible device that enables telecommunication through synchronous breath. While much of the research focuses on the use-case of yogis and the synchrony of breath in remote yoga classes, we imagine that inHale can be used in different scenarios such as: synchrony of musicians, long-distance relationships, and other forms of meditation. Our preliminary prototype can be run through an online remote server that can track breathing patterns in real time for the purpose of sharing breath synchronization remotely. inHale is comparable to other, similar tools which have been developed in the past, in its ability to sense and cue breathing rhythms, while extending these tools to the context of multiple individuals and larger groups. With inexpensive hardware, inHale is an available interaction option now. We observe the limitations of many existing breathing wearables in their lack of sharing and syncing functionality and stress the need to design strategies for communicating breathing and other bio-signs typically only observable in person which anticipate a near future wherein the remote practice of yoga, singing, and other synchronized activities is commonplace.

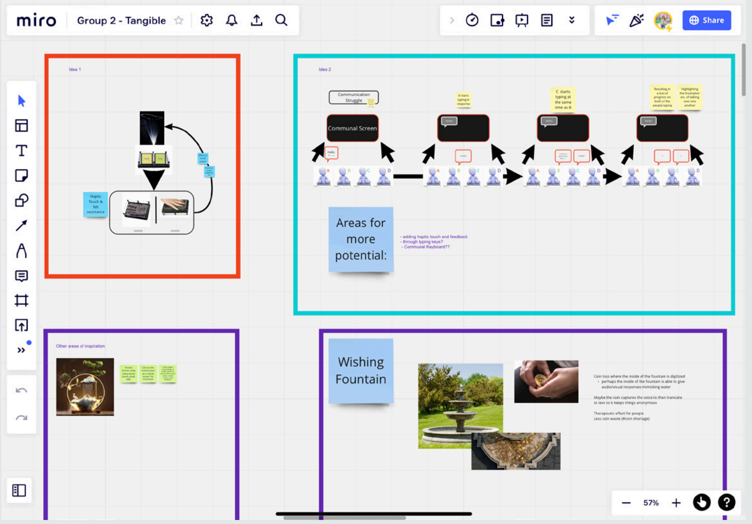
Acknowledgements

We thank Cedric Honnet, Olivia Seow, Cathy Fang, and Jack Forman for their support and feedback throughout this project.

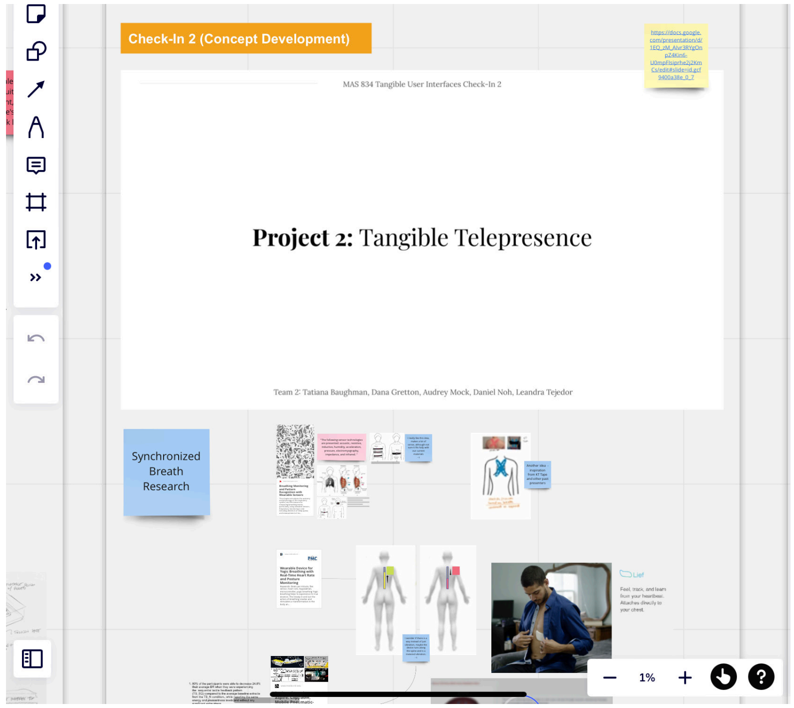
Citations on Page 132

My MIT Experience

I cross-registered in spring 2021 at MIT to take Hiroshi Ishii's Tangible Interfaces course. This class was centered around creating opportunities for interaction between people: devices or people: people through the use of a tangible device. This was exciting because up until this point, most of the projects I had done were all digital. It was so inspiring to see actual devices that people could interact with, it felt (having tangible items) as though the tangibles created a more intimate experience. Each week we had visiting artists and speakers show us the work that they were doing in the realms of design, engineering, art, and science. Everything from electronic tattoos, to the Hoberman sphere, and biomorphic materials. This project was the second group project I did during my spring semester with MIT. The team consisted of myself, Dana Gretton (MIT Media Lab), Audrey Mock (Wellesley College), Daniel Noh (Harvard GSE), and Leandra Tejedor (MIT IDM). This was a really great project to work on as it pushed my comfort levels related to creative problem-solving. Providing creative input and solutions helped me to grow my confidence as a designer. Plus, I had to find the balance of my own preferences and ideas, and that of the group.



Miro board of my initial project ideas



Check-In 2 (Concept Development)

https://docs.google.com/presentation/d/1EQ_zM_Alvr3RYgOnpZ4Kin6-U0mpFlsiprhe2j2KmCs/edit#slide=id.gcf9400a38e_0_7

MAS 834 Tangible User Interfaces Check-In 2

Project 2: Tangible Telepresence

Team 2: Tatiana Baughman, Dana Gretton, Audrey Mock, Daniel Noh, Leandra Tejedor

Synchronized Breath Research

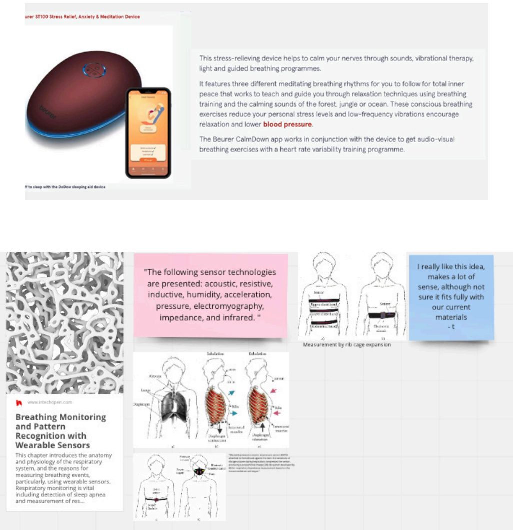
Screenshot of Miro board

At the very start of the research, we had some trouble picking an idea that seemed state-of-the-art. We had multiple zoom meetings and did our best to work around different schedules by creating a WhatsApp group in order to communicate efficiently. We brainstormed different areas of group interactions that could be enhanced through the use of a tangible device. I thought a lot about different ways that groups interact already and how we do things over distances. I mapped out onto our online Miro board a few ideas I had inspired by distances, communities, and connections.

It was interesting to work with a group of such diverse individuals since all of my projects at DMI have been on my own. My curiosity always leads to me picking other people's brains. Audrey and I were strong in ideation, design, and research, but lacked in areas of technical application. Daniel, Dana, and Leandra on the other hand were great within the areas I lacked — mechanics, engineering, and further technical knowledge — which made it a great balance.

The idea of synchronicity seemed to stand out to my group. I felt that synchronicity, allowing things to move or perform in unison or as one unit, was almost too easy and a slight cliche idea, but in hindsight, I am glad we decided to pursue the topic. The particular way we used it made it new. It was exciting to see an idea come to fruition and into real testing, plus the final result ended up being much more satisfying than I expected. We began researching to see what items exist for synchronicity and what the deeper research said. There were obviously devices for breathing and meditation, and timekeeping for musicians and dancers. One thing that seemed to be missing is any physical feeling. Honestly, I don't even know how we decided on yoga for certain, but when we did we ran with it, especially because we only had a few weeks left to produce a working prototype.

Miro board research : Existing Devices



urer ST100 Stress Relief, Anxiety & Meditation Device

This stress-relieving device helps to calm your nerves through sounds, vibrational therapy, light and guided breathing programmes.

It features three different meditating breathing rhythms for you to follow for total inner peace that works to teach and guide you through relaxation techniques using breathing training and the calming sounds of the forest, jungle or ocean. These conscious breathing exercises reduce your personal stress levels and low-frequency vibrations encourage relaxation and lower **blood pressure**.

The Beurer CalmDown app works in conjunction with the device to get audio-visual breathing exercises with a heart rate variability training programme.

ff to sleep with the DoDow sleeping aid device

www.intechopen.com

Breathing Monitoring and Pattern Recognition with Wearable Sensors

This chapter introduces the anatomy and physiology of the respiratory system, and the reasons for measuring breathing events, particularly, using wearable sensors. Respiratory monitoring is vital including detection of sleep apnea and measurement of res...

"The following sensor technologies are presented: acoustic, resistive, inductive, humidity, acceleration, pressure, electromyography, impedance, and infrared. "

Measurement by rib cage expansion

I really like this idea, makes a lot of sense, although not sure it fits fully with our current materials
- t

During this time in late November I had to travel back and forth from Boston to Maryland a bit, meaning that some of the work I had to do, I did virtually. It was really hard not to have everyone in a physical space together. We could only work through screens which only allowed limited views, hearing, and no sense of feel for the prototypes being made. It was a really good test of communication. We did this through What's App and Zoom meetings to make sure we stayed up to date about how the project was moving and what we needed. Most of the physical design was done by Dana, Daniel, and Leandra. Audrey and I took over much of the research and writing portion, with exception of describing the mechanics and engineering of the device. I additionally took on the task of making a concept video for the object and its use. Throughout this process, besides the challenges of physical distance, and coordination, there was the challenge of communicating an idea that made sense to us, to the rest of the class, to Hiroshi/others, and to prove how it could bring people closer together over distances. We had to figure out different ways to try to explain the concept all the way through the last presentation because it seemed to not fully be understood until people could experience the physical prototype.

Dana, Daniel & Leandra Protyping #1

The idea is that you can use a device to help you literally “feel” the breathing of others, which brings about the comfort of knowing you are existing and moving synchronously with someone else, regardless of distance. This was built upon the notion of how important the “breath” is when practicing yoga. The way we presented this was in the form of a video abstract and a final presentation. The presentation began with the video abstract and then a quote about breathing, “vinyasa, one of the most common forms of yoga practiced in the United States today, means, in Sanskrit: ‘breath linked to movement,’” Amanda MacMillan. We moved on to personal quotes from yoga instructors and practicing yogis, to show how breathing makes people feel connected. Next was highlighting the issue: Zoom Disconnect and then showing relative research, and how our device helps to solve the issue.

Prototype ready for testing

I felt that this project was successful and that the physical prototype was a great first iteration. People got to try it on and it seemed to make a lot of sense to them, which felt really good. We all worked really hard to make a concept come to life. The research and visuals that were made to support our argument also felt strong enough to get the idea across, which I think paid off in the final presentation. Funny enough, I actually wasn’t able to be in person for the final presentation. I did everything remotely because I had some issues with my flights. That part was actually dissatisfying because I never had the chance to watch people interact with the piece in person, nor try it myself. That being said, I was grateful to be home and have the proper computer with the capacity of making and exporting an Adobe Premiere video. It was bittersweet, but I was so grateful to be a part of a team where I felt like I had a specific role and set of skills to use. I felt that this was a great way to connect with more than one person. It was a project that played with the idea of presence beside the main focus of synchronicity. This piece could serve to bring many different people together regardless of distance or physical capacity, as long as you are breathing, you can participate.

VIDEO ABSTRACT

Future Iterations

Future iterations of the project could lead to creating more prototypes that could be tested together within a group setting. The device could also be altered in size, to be smaller and more comfortable. I know our group would have loved more time to test and alter the piece, but the final result was very exciting and satisfying to have created. Breathing in yoga is an important part of the practice. Being able to create a device that can allow participants to utilize their sense of touch is exciting. This project was a great way to really think about innovative ways technology can bring people together. We often think about games and screens, but I feel we rarely think about physical electronic objects. I certainly didn't. I usually tend to vote for non-electronic methods of interaction in terms of facilitating better relationships. I think electronic means can be distracting sometimes. This project though serves to use electronics to bring people closer together and increase their focus on the practice of yoga As a team member of this group, I was allowed the opportunity to creatively aid in the issue of pandemic forced distancing. Now people can physically feel the breathing movement of other people, which hopefully helps to mitigate feelings of isolation.

Photo by Jeremy Bishop on Unsplash

CASE STUDY

#4

CAN

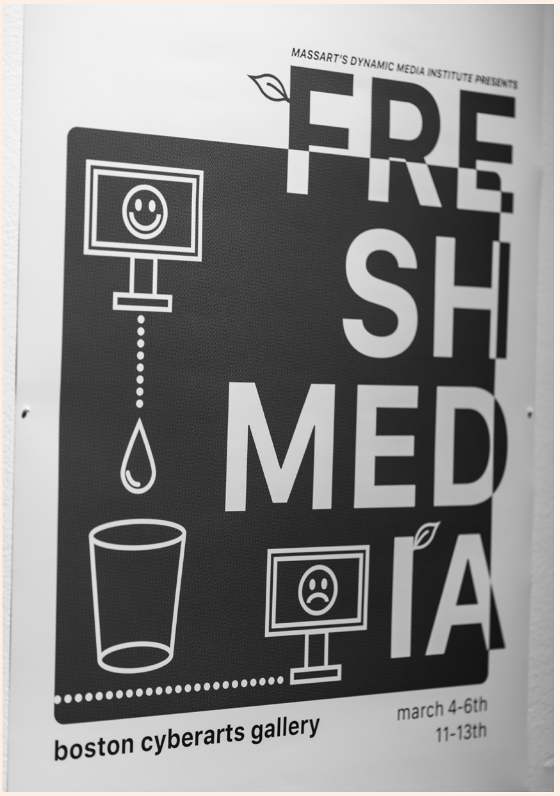
YOU HEAR ME?

CAN YOU HEAR ME?

People + Tin Can Talking + Digital Interface = You Said What Now?

Intro/Concept

Humans have an ancestry of face-to-face interactions. What happens when the shift when human connection is translated through a virtual environment - if any at all? How are the relationships people build online different from in person? This piece is an exploration of digital communication while within the same space. It uses the most basic phone form as an opportunity for human connection through a digital interface. CAN you hear me juxtaposes the online and physical relative to presence, space, and translation of ideas and content. I created this piece with little expectation for a specific outcome. My focus was on learning about different human behaviors and responses relative to one another, and technology-mediated dialogues. My goal was to provide an opportunity for connection and interaction for all individuals through the use of tin can phones.

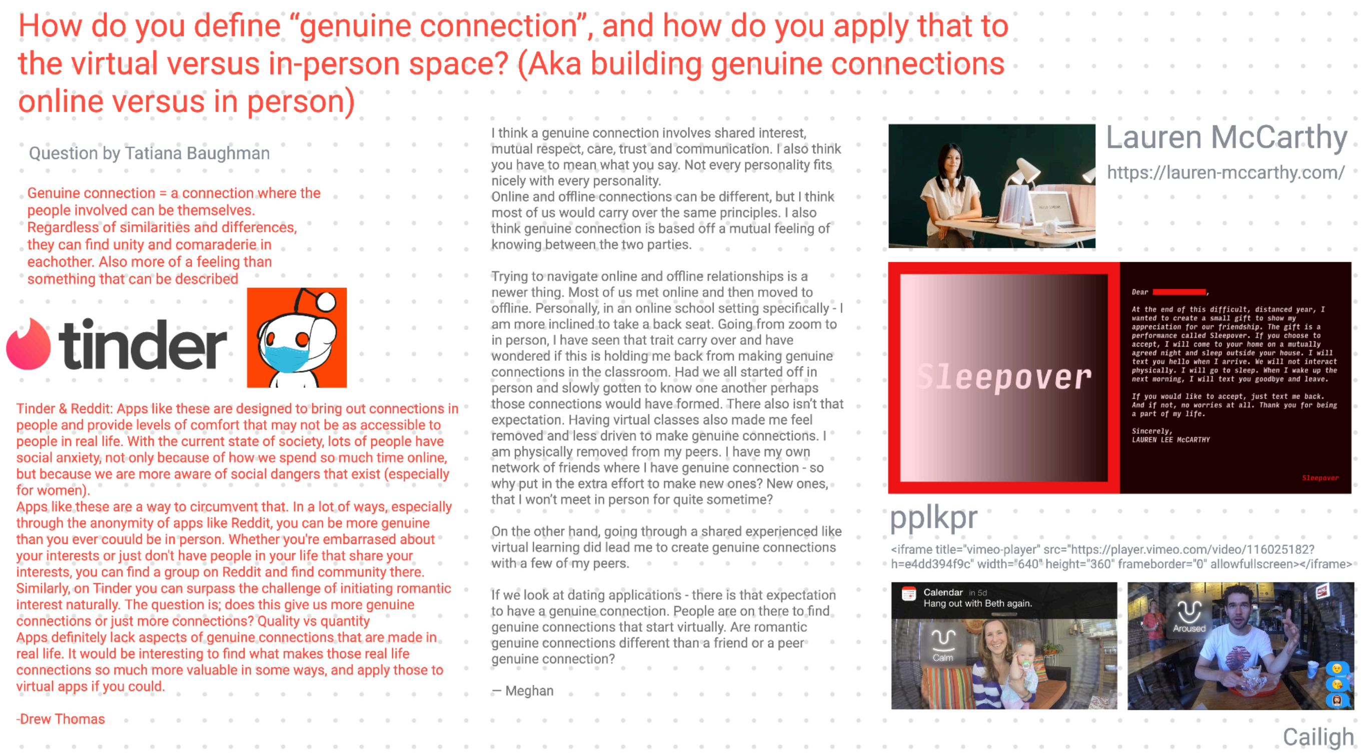

MASSART'S DYNAMIC MEDIA INSTITUTE PRESENTS
FRESH MEDIA
boston cyberarts gallery
march 4-6th
11-13th

Fresh Media Poster designed by Nick DiPaola

boston
cyberarts

Design Process

The project was fast-moving and came together within the span of approximately three weeks. It was also the first time I would get to have a DMI project exist in the real world. In the beginning, I was thinking about communication and relationships. This primarily stemmed from my thesis research as I realized that there was a difference between an online presence and a physical one. In-person, you have so many more sensory inputs (sight, sound, smell, etc.) that you do not get when communicating electronically. The biggest being, I would argue, the visual sight or touch of a full person. I was thinking about how we communicate with one another and what that means for being in person versus being online. I wanted to explore this dynamic between the physical and electronic and so I started to think about different ways people communicate using tools and across different distances.



How do you define "genuine connection", and how do you apply that to the virtual versus in-person space? (Aka building genuine connections online versus in person)

Question by Tatiana Baughman

Genuine connection = a connection where the people involved can be themselves. Regardless of similarities and differences, they can find unity and comaraderie in eachother. Also more of a feeling than something that can be described

Tinder & Reddit: Apps like these are designed to bring out connections in people and provide levels of comfort that may not be as accessible to people in real life. With the current state of society, lots of people have social anxiety, not only because of how we spend so much time online, but because we are more aware of social dangers that exist (especially for women).
Apps like these are a way to circumvent that. In a lot of ways, especially through the anonymity of apps like Reddit, you can be more genuine than you ever couuld be in person. Whether you're embarrased about your interests or just don't have people in your life that share your interests, you can find a group on Reddit and find community there. Similarly, on Tinder you can surpass the challenge of initiating romantic interest naturally. The question is; does this give us more genuine connections or just more connections? Quality vs quantity
Apps definitely lack aspects of genuine connections that are made in real life. It would be interesting to find what makes those real life connections so much more valuable in some ways, and apply those to virtual apps if you could.

-Drew Thomas

I think a genuine connection involves shared interest, mutual respect, care, trust and communication. I also think you have to mean what you say. Not every personality fits nicely with every personality.
Online and offline connections can be different, but I think most of us would carry over the same principles. I also think genuine connection is based off a mutual feeling of knowing between the two parties.

Trying to navigate online and offline relationships is a newer thing. Most of us met online and then moved to offline. Personally, in an online school setting specifically - I am more inclined to take a back seat. Going from zoom to in person, I have seen that trait carry over and have wondered if this is holding me back from making genuine connections in the classroom. Had we all started off in person and slowly gotten to know one another perhaps those connections would have formed. There also isn't that expectation. Having virtual classes also made me feel removed and less driven to make genuine connections. I am physically removed from my peers. I have my own network of friends where I have genuine connection - so why put in the extra effort to make new ones? New ones, that I won't meet in person for quite sometime?

On the other hand, going through a shared experienced like virtual learning did lead me to create genuine connections with a few of my peers.

If we look at dating applications - there is that expectation to have a genuine connection. People are on there to find genuine connections that start virtually. Are romantic genuine connections different than a friend or a peer genuine connection?

— Meghan

Lauren McCarthy
https://lauren-mccarthy.com/

Dear [redacted],

At the end of this difficult, distanced year, I wanted to create a small gift to show my appreciation for our friendship. The gift is a performance called Sleepover. If you choose to accept, I will come to your home on a mutually agreed night and sleep outside your house. I will text you hello when I arrive. We will not interact physically. I will go to sleep. When I wake up the next morning, I will text you goodbye and leave.

If you would like to accept, just text me back. And if not, no worries at all. Thank you for being a part of my life.

Sincerely,
LAUREN LEE McCARTHY

Sleepover

pplkpr

<iframe title="vimeo-player" src="https://player.vimeo.com/video/116025182?h=e4dd394f9c" width="640" height="360" frameborder="0" allowfullscreen></iframe>

Calendar in 5d
Hang out with Beth again.

Cailigh

A question I posed to my Design Symposium class

Each week I wrote a **log** through WordPress to help clarify my thoughts, and document where I was in my process.

Week 1/Log 1:

I am currently exploring the idea of "presence" and what that means in terms of in-person relationships and online experiences. I have been researching the effect of technology on relationships/connections between people, and now I have finally realized there is a "presence" we need to consider. That is to say someone's attention – along with physical placement. I know there is a dynamic there. That being said, I am curious to know what other factors there are to consider.

https://limbicmedia.ca/blog/technologies-enhance-human-connection/

This article is talking about the difference between heads up vs. heads down technology. On first assumptions, I feel, upon first impression, it makes a lot of sense. Heads down feels more isolated, vs being more aware with a heads up approach.

"Heads-up tech focuses our attention on our surroundings and encourages shared experiences"

It is also a good way to segregate technology since that is a big category in itself.

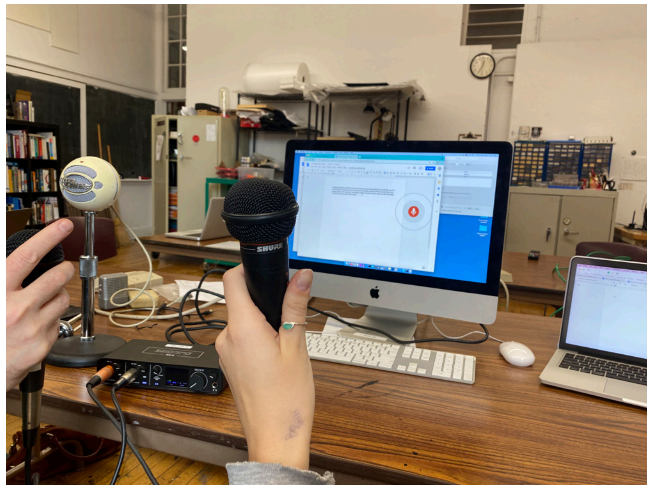
https://limbicmedia.ca/aurora/ This company seems to have a system (AI) that works with people and lights which could be really fun to play around with.

Also taking time to look into more artists doing work with technology, presence and people

https://www.tate.org.uk/art/art-terms/e/experiments-art-and-technology-eat/6-artists-who-use-technology-their-work

Prototype

I liked the idea of tin can phones because it is a technology that has been around for so long. I liked that tin can phones forced people to work together in order to be heard and that you had to be within a physical space to use them. I researched the history of tin cans, and whether or not an electronic version already existed. I found there was a tin can microphone that someone had created for their computers. It was a startup idea that never fully gained real traction and funding, plus it was a USB that connected to your computer which took away some of the usability of your hands when you had to use it. I liked it but wanted to take a slightly different approach with my project in order to make the cans work in a set to inspire interaction between people.



Testing out microphones with Google Translate

I took some string and the cans I brought, along with some oversized bread crumb cans, and tried testing out the different sizes and how string carried sound vs the bread cans with wire. What I found was that the sound was very muffled and distorted for both can prototypes, which was really comical to listen to. The smaller cans seemed to work better to capture more distinctive sounds than the larger ones, but I realized this was a unique experience in itself. That is, playing with the cans and how funny it was to try and decipher what the other person was trying to say, although you could kind of hear them anyway since being in the same space. I was wondering if there was a way to translate this comedy and input/output digitally.

Week 2/Log 2:

I was thinking about how people used to play with tin cans and string to make phones. I feel as though not many people do that much anymore and kids may not know how to even do that. I am wondering if there is a way to do this electronically and I want to expand it or make it really interesting or new but I don't know how yet.

Maybe it only works in certain spots (like losing a phone signal, "can you hear me now" kind of commentary). anyway – initial thoughts? I want to open this up to the class/others too to get feedback on.

Does any of that make sense? These are just INITIAL thoughts but they play with ideas of
- Connection
- Tech
- Communication/proximity
- Nostalgia/some people may have

Here are some examples of people somewhat doing this/related things:
https://www.cnet.com/news/ip-tin-can-phone-slightly-better-than-string-version/

Professor Abe Evensen Tena's (Professor of my Design Symposium Course) Response:

Conceptually, I would like to know what aspect of the tin-phone experience I want to bring in today. Is it the aesthetics of a tin can? With its industrial chrome finish, the ergonomics and tactile quality, the low-fi sound? If so, making a mic/speaker combo in the form factor will probably accomplish as much.

Instead, if the experience I want is the "wired" experience, where you can only speak to other people in a range determined by a wire, then a simple two-way communication device (arduino, perhaps?) through wires (and a central computer to process the sound) is what you need. Focusing on this will allow you to explore space and the impact it has in building relationships (a tin phone from painting to design, or from the presidents office to the cafeteria) Lastly, if the experience you want to decant from the tin phone is the DIY aspect of it, where kids use "useless" materials do something awesome, then maybe is worth not even thinking about this as a technology problem, or an object. Maybe this is about finding out what your user does not have access to (like kids without real phones) and see if you can make it with stuff from the restore, or donated materials, or whatever you find on a trip to Goodwill and 20 dlls. Maybe is not a problem for you to solve alone, but to set up, document, and participate with other people.

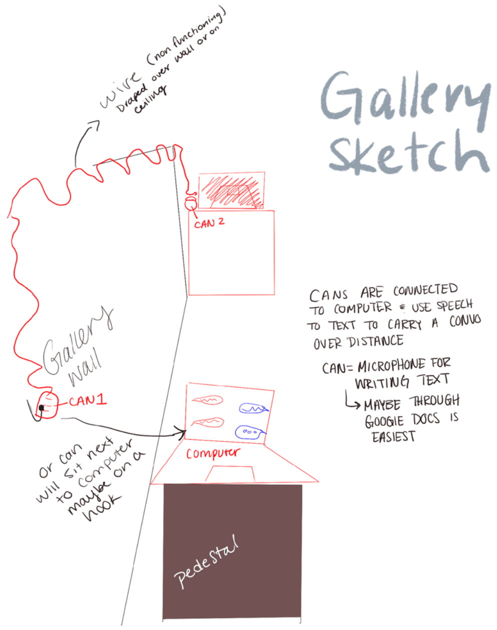
Prototype

With the short timeline I had to work within, I knew that I needed to keep my concept simple. I decided to use microphones and a Google document because that made the most sense in terms of technological specifications and ease of access. I met with Fred and we tried out a few different methods of capturing voice and turning it into speech, through using regular microphones and text editors, to smaller speakers and a Google Document.

Fred and I played with Snowball microphones at first which looked great but took away the physical interaction, and sense of touch that the cans provided. I wanted tangibility and autonomy of interaction which is why I decided to stick with using the tin cans rather than just microphones. Fred then explained to me how speakers work in the reverse way a microphone does. Meaning, I could use old speakers to pick up the sound waves and translate that into text. So I played with different speakers and attached them to the bottoms of tin cans to simulate the analog tin can phone connected through string. Essentially, I added an electronic middle man for communication by use of a computer, a motu interface, and a Google document. I was feeling very excited and curious to see how others would interact with this type of communication, but there was also a debate of how the project could be presented for people to interact.

One idea was for two computers and two cans to be paired together (one computer, one can), which would be spaced in separate parts of the room. This way you could essentially do what the start-up idea had done, keep everything separated but still have the tangibility of something to hold, with the additional awareness that you would still be in the same room as the other person. The other option would be to have one screen to see the transcriptions, and two cans with microphones connected, which would allow for participants to be closer to one another rather than further away, but still communicating digitally. This second idea, as it turns out, two cans and a screen, would become the final iteration of the piece in the Fresh Media Show at the Boston Cyberarts Gallery.

Design Sketch


Gallery Sketch
wire (non functioning) Draped over wall or on ceiling
CAN 2
Gallery wall
CAN 1
Or can will sit next to computer maybe on a hook
Computer
pedestal
CANS ARE CONNECTED TO COMPUTER & USE SPEECH TO TEXT TO CARRY A CONVO OVER DISTANCE
CAN= MICROPHONE FOR WRITING TEXT
MAYBE THROUGH GOOGLE DOCS IS EASIEST

Week 2/Log 2:

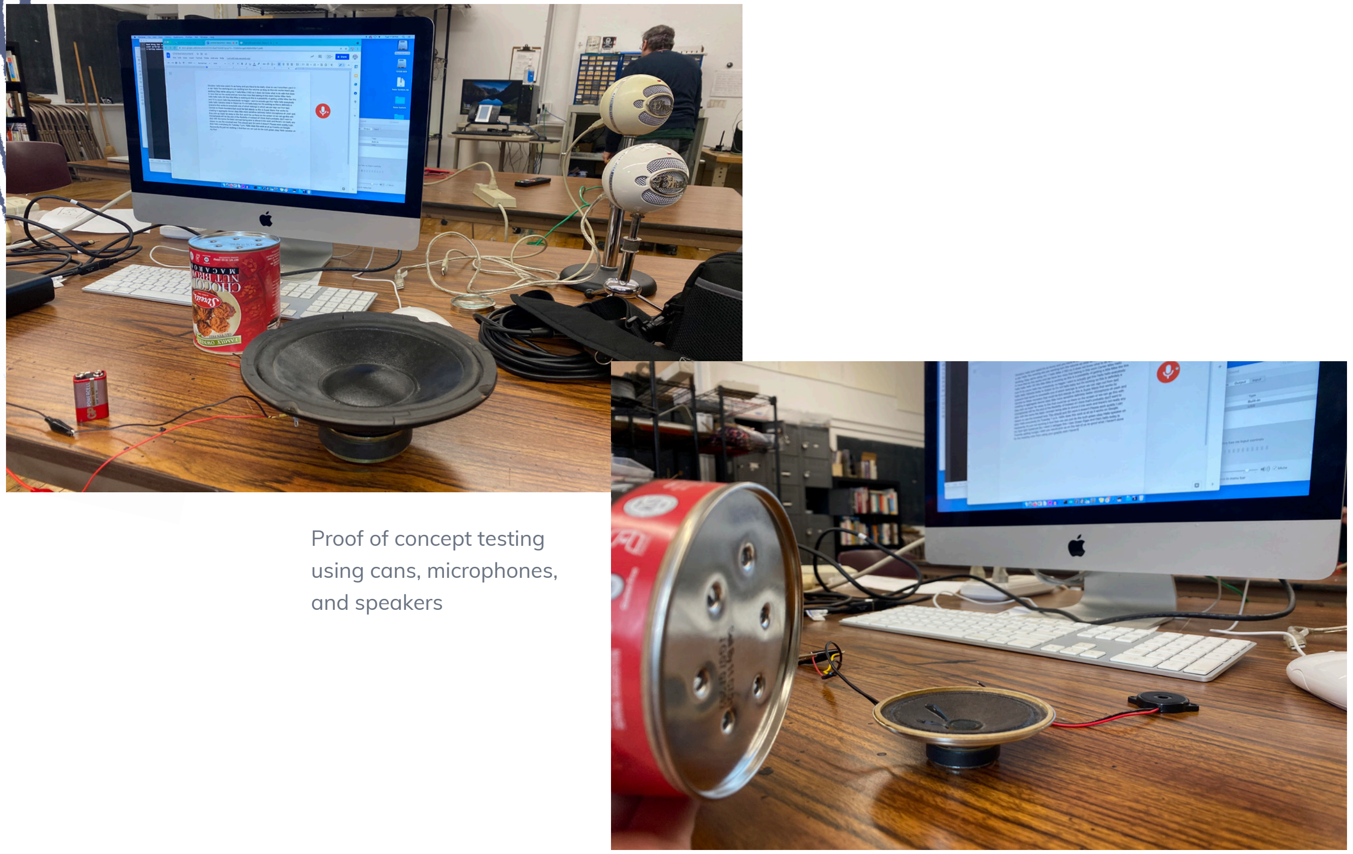
I’ve done a lot of thinking and brainstorming:

https://code.tutsplus.com/tutorials/how-to-create-a-simple-web-based-chat-application–net-5931

https://www.speechchat.com

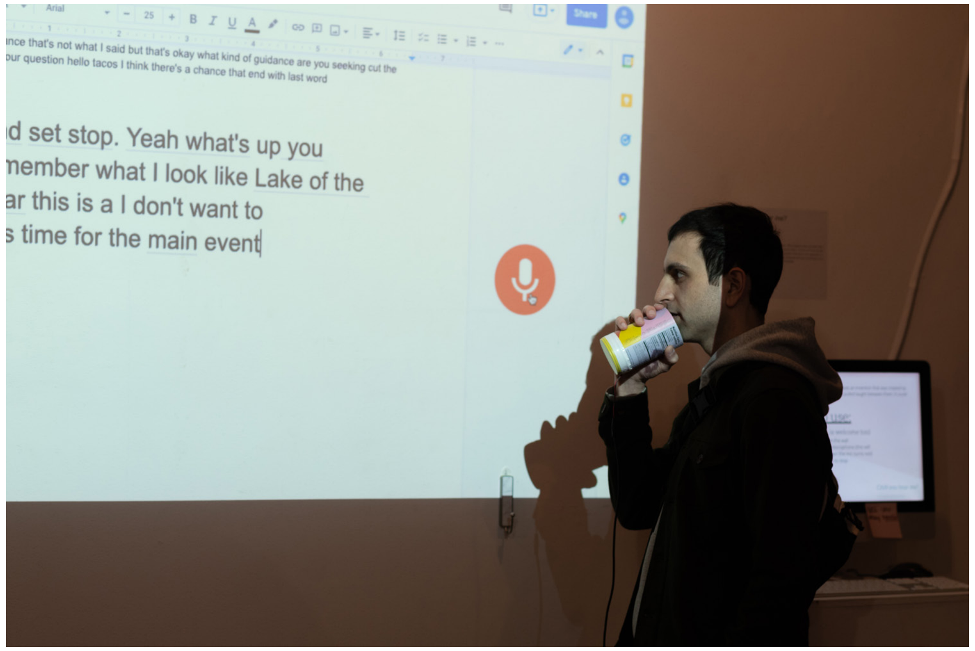
https://ai.googleblog.com/2019/02/real-time-continuous-transcription-with.html

I also was able to meet with Fred to figure out a few proofs of concepts that I could use. We spent yesterday playing with different microphones and speakers to see what might work best to pick up speech and also be small enough to put into/on a tin can.



Proof of concept testing using cans, microphones, and speakers

User Testing


d set stop. Yeah what's up you
nember what I look like Lake of the
ar this is a I don't want to
s time for the main event

Nick DiPaola using my project

Do younger kids know what tin can phones are? I realized that even if they didn’t know what they were, it really didn’t matter because the cans provided something new and fun to play with. I even met an older person who was completely unfamiliar with the concept of “tin can phones” which was surprising to me since they were more popular in years past. This goes to show the assumptions we make about different generations as it relates to technology. This experience allowed for play and for technology to act as it does - reliably but also unreliably, such as when the internet would cut out. I thought I would be fine with people not being able to use the piece, but actually I was very stressed out when the piece could not be used. I wanted interaction and I wanted to know what kind of experiences people would have, with technology and with one another. I wanted people to interact, and play, so when there was no opportunity for interaction between people and the technology, and in turn, one another, I felt very dissatisfied. I feel that this applies to me as a designer. I want to create opportunities for people to interact with one another in a positive way. If I can use technology to do that, then that is even more exciting.

For future iterations I would primarily play more with the visuals, and spatial interactions. I have a few different variations of how the project could evolve in terms of taking a screen away completely, and only relying on cans for 2-way communication, or I could let the screen erase what is being typed visually, as the words are being spoken. I am curious to know what people do with different spatial restrictions, dictation restrictions, and the lack of visual elements. People enjoyed this version, and I have a full Google document of the words people spoke into the cans, along with a lot of misheard and mistranslated sentences. There was room for participants to say whatever they wanted or to not say anything at all, as some people did by beatboxing. The project was not intended to be the only means of communication because it requires two people to interact within the same space, meaning that this serves as a catalyst for further dialogue once they leave the project. The other beauty is that all ages can use this piece - regardless of technical capability or comfort. From grandmother's misunderstanding what was really happening and telling a birthday story about their grandson, to yelling kids and people beatboxing, this piece provided a space for people to play. It tested curiosity and the bounds of what is private or public.

Fresh Media 2022 Curators

Gallery image by yours truly

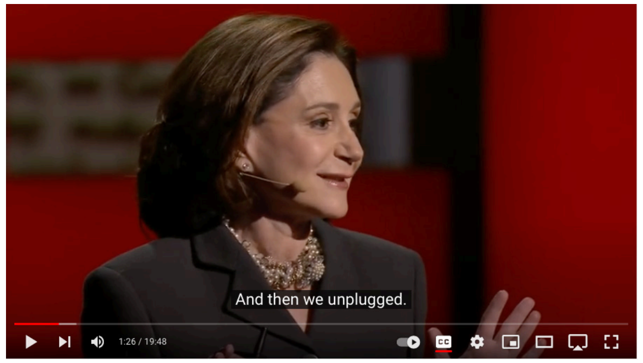
Conclusion

The piece was a facilitator for interaction between people, and it left autonomy for the individual as to how they used it. The participant could input anything they wanted but it may not translate correctly, which is precisely what happens on social media every day. Words and intentions become distorted and it is very easy to misinterpret information. The project is more focused on communication through an electronic interface, but rather than being on two cell phones over a long distance, you can visually see and interact with the other person to see if the words and meaning match the intention of what is being spoken. CAN you hear me embodies my thesis as a method to inspire real-life interaction between people while representing how fun and misrepresentative the online space can be regarding communication. I aspire to be a designer who can provide instances to form better connections and use technology to facilitate real-life interactions and reflections. I was hoping (people of all ages) would use the cans to play and speak, but also have a direct reason to interact with one another, which appeared to be successful. Participants also shared their enjoyment in using the piece, and how funny and awkward it was when Google was trying to translate their words. I enjoyed this playful interface and look forward to creating more opportunities for human interaction through electronic facilitation.

FINAL REFLECTIONS

PART III

Sherry Turkle,
“Connected, but alone?”
2012


And then we unplugged.

As our world becomes more dynamic our ability to do multiple tasks from a singular space renders the process more static. We can do many personal and work tasks from the comforts of our own homes without the need to go anywhere else. The pandemic seems to support this point. We work from our houses and apartments and move in-person tasks and interactions to virtual Zoom rooms and Slack channels. But what is the personal cost of this new convenience? How have people become more reliant on their devices to be their gateways to social interaction and personal brain stimulation?

Sherry Turkle speaks in her TED Talk, Connected but alone, (2012), about how “we expect more from technology than from each other,” and about the ideas of connection and isolation. Do people get uncomfortable being in extended periods of solitude? Do we rely on social media to facilitate connection? If I already feel as though I use social media and my phone this way, at age 23, I wonder then what role social media plays in mediating relationships for younger individuals such as my siblings. Whose job is it to help the youth be comfortable with their minds and words instead of having a sustained dependence on technology to facilitate thought, inspiration, and connection with others? How does technology affect our abilities to make genuine connections? Could it be harnessed to help - is that what we have been searching for?

I believe my research and case studies have shown that we rely on technology because we have underestimated how much we desire human-to-human connection. It seems that as we grow up with technology and integrate it into our lives, we begin to substitute face-to-face interactions with virtual ones. It creates more distance because an online presence is more limited than the physical one. When I am in a zoom meeting, there is an odd sense of relief when I log off, that doesn’t happen when I am in person with someone unless it was a “someone I don’t get along with.” I don’t get the organic, natural feeling of being in the same physical space with someone, and knowing they exist in that same space with me.

Mom grew up riding horses,
I rode when I was younger,
I’ve always been outside

Social media is helpful for exploration, idea sharing, and fostering base-level connections, but it can only supplement so much.

> I want people to interact with one another. After spending so much time online, and almost dreading going to be in person for classes, I now realize how valuable it has been to be with other people in the same space. I never would have been able to connect with classmates through venting, and jokes in the same way if I could only ever do it through texting. Those moments of driving people home, transporting artwork, or visiting studio spaces have meant more than any Slack or text thread. This is what I want for younger generations, to not become so seduced by algorithms that we miss building deeper relationships with actual human beings.

Snapchat with the siblings
(except Quinn, not sure
where he is)

We have an opportunity as designers to create instances where people can get to know one another in a deeper way than social media allows. I have tried to do this through my work. I created a speculative storytelling map, a cooking application add-on, and worked with a group to make a tangible breathing device and even a set of communicative tin cans. In all of these instances, I used a piece of technology to help people interface with each other so that they could have ways of building emotional and relational intimacy.

Collaging of images to decide a color palette

TELLER TALES:

MAIN TAKEAWAYS

From my speculative storytelling map, I learned three key principles of interaction design:

- Pleasant User Experience: An interaction that people can primarily enjoy, or even find therapeutic.
- Cognition Ease: I want people to focus on the content and stories of their loved ones, rather than getting lost within the technology.
- Engagement : Creating an intriguing experience that is easy to use (less tools and pre-requisite skills to use). To this point, I think the project could be improved given the right tools and research.

I wanted to provide an easy way to document and share stories. The experience for that should be easy and fun. There should be no need for a lot of thinking about how the project works, instead I want it to be a seamless experience. Record a story to a map, have it available for sharing and response in an engaging way.

I'd recommend for future designers to think about the people you want to engage. What do you want them to gain from the project, a feeling of satisfaction or accomplishment? Personally, I want people to feel intrigued and left with new insights. I hope for people to get to know each other better. Strategies from this project I think could help other designers would be,

- Speaking to the people you are designing for. Listen to their stories, insights and pain points.
- Show your work to others often and do not over explain things. Let people try it out to see how intuitive the process is, and then get feedback.
- Make multiple versions. Without making multiple versions, I would not have been able to see what did not work and figure out why.

KITCHEN STORIES:

MAIN TAKEAWAYS

My Kitchen Stories application update, taught me to be conscious of:

- UX: Making sure that people are able to navigate the application and access edits in an easy way. This allows for them to enjoy the content rather than being distracted by poor design.
- Functionality: Providing an intuitive experience as much as possible.
- Perceivability: Making the interface visually appealing through, shapes, colors, layouts, etc., and allowing for people to make changes as they desire.

Working within an application prototyping software such as Figma, it was a challenge to utilize all it had to offer within the first use. User Experience, how I met the expectations of someone using the app, was challenging because I was primarily trying to meet my own expectations which were high. Sharing the app in different phases throughout the design process helped me to alter things I had not thought of. Or it helped highlight things that did not seem to work for other people, and I wanted the functionality to be easy, and the app to be perceptually intuitive.

Future designers could benefit from allowing time to research into who is using cooking applications. They could really dig in deep to find out more specifics about their target audiences. I primarily worked in the timeline available and with the people that were accessible to me. With further prototyping time, one could also continue to build out an interface and open it up to focus groups for broader feedback. I would recommend increased user testing. Use different layouts and interface options. See what people think and what makes the most sense for keeping the integrity of creating easy and meaningful interactions.

INHALE:

MAIN TAKEAWAYS

Working within a group for the inHale project was very insightful. Primarily it taught me:

- Perceivability: How to communicate ideas in different ways, such as visually, or through written word to other people.
- Functionality: Creating a device that was visually appealing and was a working prototype. Something that was clean in appearance so as to not be horribly distracting.
- Connectedness: Keeping this idea at the heart of the project. Testing out a way to bring people together for a shared experience via a physical object.

This project was a challenge to explain sometimes. It was hard to try and describe the way that the physical prototype worked without being able to properly let people experience it for themselves. That being said, it challenged us to think about creative ways to illustrate the point. I really put a lot of time and effort into the research to find better ways to clarify the concept. The video I made also seemed to help get the purpose across better, (allowing yoga participants to feel connected through the act of breathing in unison). It was also important that the initial prototype worked to give us a basis for where we could go next.

I encourage future designers to communicate often with their team. I also found myself creating ideas on my own to pitch to my teammates to see if it could help with the progression of the project. Even if my ideas were not a fit for us it was a great opportunity to share my thoughts and get creative feedback. One should take advantage of learning and collaborating with people outside of their normal working or social circle. There is much you can learn from other people in different areas of study. I did not expect to grow as an designer and thinker as much as I had, if I had not been exposed to forward thinking of the MIT tangible media course.

CAN YOU HEAR ME?:

MAIN TAKEAWAYS

CAN you hear me was a great example of focusing on:

- Communication: How we already do this, and what are ways we can initiate conversation or interaction.
- User Control: allowing participants to hold the cans and provide their own sound inputs for Google to decipher.
- Affordability: Thinking of how to best place the cans in the space so people know to pick them up and speak. Also considering that if I place the cans further apart, the more likely people would intuitively stand at a distance from one another vs. being directly side-by-side. I took inspiration from the analog version of tin-can phones and playground structures (the big, metal, playground telephones).

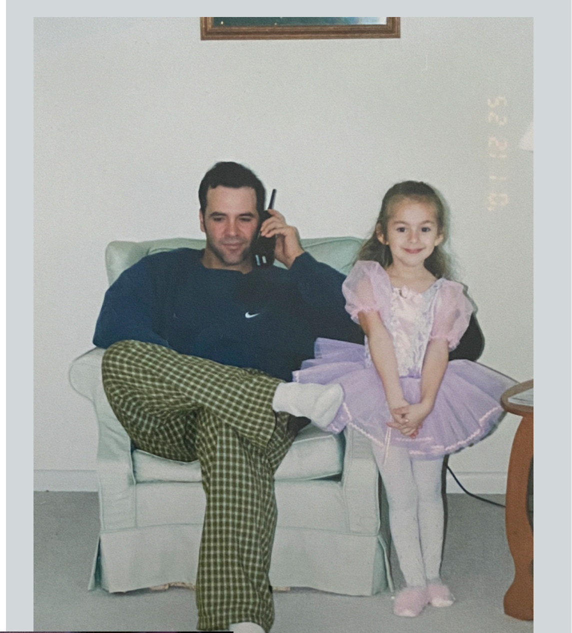
After having done most of my primary research and writing, this project developed. I was able to take an older form of communication and juxtapose the analog with the digital. Cans that were personal to people now had a digital mediator for conversation. I wanted to do this to highlight the volatile nature of internet communication, but also as an opportunity for people to talk to each other again. The funny nature of talking through technology is a visual demonstration of what most of us do every day to communicate with others. But what was neat and comical, is the control people had or didn't have over the words Google translated into the document. It almost provided a sense of vulnerability because your words were translated and broadcasted for everyone in the gallery to see, not just the person at the other can. Plus people could use it individually.

I wanted people to be able to decide how they interacted with the project so I left it as open ended in terms of movement and the type of communication they wanted to use. In the end, it was fun for participants to use, and also provided people to come together through the use of talking through technology.

Future designers could benefit from creating affordances and observing what people do. Allowing people to play and be creative with how they interact can help you to design future iterations and experiences for people. I would also recommend playing with spacing and visuals. Test concepts early and talk to people to hear what they think about the experience. Research early and talk to people about your concepts. The people around me and my research helped to draw connections and inspiration throughout my process. I could not have done the project without the help of those around me.

Online, there is only a limited way to measure presence and attention, through exchanging messages, likes, a video, etc. The quality of internet interaction does not live up to the quality of interaction when in person. I believe that we gain so much more when able to interact face-to-face. Our senses receive more stimulation and input to learn how/if we should build a connection. This is a piece that I think is missing for many younger individuals. Speaking from experience, it seems that when you are growing up online, you can easily mistake the interactions and connections in the digital environment as being “enough to sustain us.” I don’t believe this is so. My contextual research supports me. I would say, I feel more fulfilled and happy with a balance of both. I enjoy being online. TikTok takes up way too much of my daily routine, yet by using it, I get to share funny videos with friends, my boyfriend, and family when I see something that they can relate to or get a laugh from.

Top: Constantly forcing my dad to play dress up & pestering to play



I enjoy making other people happy (most of the time). As an older sibling, I have grown up looking after others. Plus I have a mom who has always looked after me. I believe that as a designer I have a responsibility and desire to create opportunities for people to come together. Hopefully, these “opportunities” lead people to form new connections or deeper ones.

I’ve learned this through coming to DMI. Initially, I came to Boston excited to finally get out of Maryland, but with the expectation that I was finally going to learn technical skills that I could use to get a job. I kind of did that. I’ve learned ample new skills and programs that I can use to help me flush out ideas, but the real thing that I’ve gained is my desire for human connection.

Left: Andrew finally decided to show up = me having someone else to play with

What I have learned about myself and my processes:

I am so proud of the work I’ve done and grateful to every individual who has given me feedback, which helped to guide and refine my ideas. I wish that I had been able to utilize the campus resources and studios that MassArt has to offer. At the same time, I recognize that my first year was done remotely, which wasn’t easy. Sitting for three hours on Zoom is so tough mentally and physically. I don’t enjoy having to be static in my room all the time. I want to move around and chat with people during breaks instead of relying on my phone to distract me. It was so nice to finally move to hybrid courses and have the chance to make a project that people could use in real-life. CAN you hear me was the first project that I made where I could watch it be used in real-time by real humans.

It solidified that I was designing for people to interact with one another. I am not as interested in an individual experience with technology, but rather how I can use technology to bring people together.

Nam & Pop, have run a carnival game since I can remember. I have spent summers trying to get people to throw a ping-pong ball into a fishbowl.

(yes, it’s possible & yes, you can win a live goldfish)

UCKS LIVE FISH
BALL IN ANY BOWL WINS LIVE FISH
YOUR FISH FREE

Nam & me at the fish stand

The most honest carnival game I’ve seen honestly.

I’ve also learned that I sometimes battle with myself because I tend to think in two main ways that often overlap: logically and emotionally. I can think through the logic of a scenario or idea and consider all of the prototyping pros and cons. On the other hand, how people interact with the idea and what they take away is just as, or usually, more important than my desire for the way a project should work. I create knowing that every individual is a unique makeup of their own stories and experiences. This can affect how my work is viewed and understood.

My over-thinking nature makes me an intentional designer. This is good but where it can be difficult is when I feel my concepts are being misunderstood. Sometimes that is just because my methods of sharing work don't translate correctly. Other times I think that people make snap judgments. This is where I think social media conditioning usually comes in. As we are online all the time, we become accustomed to quickly scanning and filtering information - what is interesting, what isn't, etc. These snap judgments can be helpful when trying to decide what food you want, but I think it creates less tolerance for other people or unfamiliarity. Younger generations tend to get swept up in trends because, why would you want to be on your own when you can be connected and relate to everyone else? This is where you and I come in as adults. It is up to us to set better examples for adolescents. To talk and connect with them, rather than make snap judgments about their ignorance or self-absorption. There is an opportunity to reconnect with younger generations and show them that while being online can be fun (and even volatile), there needs to be balance. Through a better balance of the virtual and real world, I believe we can meet our basic desires for connection.

“GET OFF YOUR PHONE, GO OUTSIDE AND PLAY!”

One of the top images most loved by my family. Genevieve falling on the hay bales and no one knowing until mom's film roll came back

//

SO WHERE DO I GO FROM HERE?

I was a skater too

Well, first I have to get my diploma - my official declaration of finishing my Masters. Then, I'm not quite sure. What I do know is that I will always work to be a human-centered designer. Meaning I'll always strive to better others and try to figure out new methods and modes for interaction where it is needed. I also want to take advantage of getting to know other people, and listening to their stories so that I can continue to learn and make design decisions. For myself, I hope that I can learn more technical skills, whether it be programming, video making, prototyping, etc. to help execute design goals. Overall, I hope that anyone can come and read my thesis to understand the importance of human relationship building. Because at the end of the day, we all desire connection. Younger generations need wisdom and support. They need encouragement to build real-life relationships instead of social media surrogacy.

Always grown up with color, and playing house

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SOCIAL MEDIA SURROGACY:

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By Tatiana Baughman