My Life in U+2588

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Acknowledgments

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List of Abbreviations

|  |  |
| --- | --- |
| **ANSI**  **ASCII**  **BBS**  **BEL**  **BS** | American National Standards Institute  American Standard Code for International Interchange  Bulletin Board System  Bell  Backspace |
| **CSS**  **ESL** | Cascading Style Sheets  English as a Second Language |
| **HTML**  **LF**  **NAK** | HyperText Markup Language  Line Feed  Negative Acknowledge |
| **RTTY**  **SARS** | Radioteletype  Severe Acute Respiratory Syndrome |
| **TTY** | Teletype |

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Abstract

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This thesis is dedicated to my past self, to my family, my friends, and to the world.

# Introduction

My thesis, *My Life in U+2588*, explores how cultural stereotypes and racism shaped not only my childhood, but the way I understand myself today. Through this project, I revisit memories I had long forgotten and reflect on how even the smallest incidents and events left a lasting effect on who I've become today. Growing up as a Chinese American in a small, predominantly white town in central Pennsylvania, I often found myself defined by assumptions before I even had the chance to introduce myself. From an early age, it became clear that many people around me had already set an idea of who I was, not because they knew me personally, but because of how I looked and the fact that I was Chinese. Some of these assumptions were very common: a straight-A student, naturally gifted at math, and eating cats and dogs for dinner. Whether intentional or not, these comments reinforced the idea into my childhood that I was different, that I somehow didn’t belong to the world. At the time, my younger self didn't fully comprehend what I was feeling, barely having knowledge of culture and race, but in my heart, I always knew something felt off. The embarrassment, the shame, the feeling of being hyper-visible and invisible all at the same time. These assumptions led to a lot of pressure and negative thoughts that loom over me, which eventually led to social anxiety. So much so that I considered the isolations during the COVID-19 pandemic to be one of the best and peaceful years of my life prior to starting college, solely because of the fact I did not have to see anyone and could remain in the solitude and peace that I have found in my house and space with my beloved parents.

To tell my story, I created an interactive website built using ASCII (American Standard Code for Information Interchange) and Unicode, two text encoding standards that unknowingly played a part in my childhood happiness. I hadn't realized until working on this thesis just how much these two standards had shaped the way I found comfort and creativity in the digital world. By allowing users to interact with my story, I hope to encourage reflection, allowing individuals to consider how cultural assumptions and stereotypes, how the smallest events can shape the way others think, and how those thoughts can leave a lasting impact on our adult lives. Through this experience, users are given the chance to navigate moments of isolation, cultural stereotypes, and racism. Sharing these memories, including the ups and downs, is not only a message to my younger self to hold on and stay strong, but to others who may feel alone or unseen in the world. For a long time, I never believed I would ever find a place where I would truly belong. I had come to accept the idea of staying peacefully in my own little world forever, interacting with no one outside of my family. But with the right people, the right place, and the right moment, my life took a turn I would've never expected. One that was filled with much more warmth, connection, and hope for the future.

Stereotypes and racism are deeply embedded in media, history, and storytelling, shaping how entire cultures and communities are perceived. They have the power to influence friendships, individual lives, how people are treated in everyday lives, and how others might perceive someone or a whole community. In chapter 1, I will outline the effects of cultural stereotypes, particularly how they shape perceptions from a young age and to adulthood. I explore how these stereotypes influence not only how others see us, but how we eventually come to see ourselves as well. Because this thesis is centered around my personal experience and self-exploration, I focus specifically on stereotypes related to Chinese identity.

I reflect on key moments from my childhood through my college life today in chapter 2, including vivid memories that ultimately shape who I am today, how I understand myself, my culture, my community, and my relationship to the past and present world. Many of these recollections are small, almost trivial that others might not even remember or think twice about. And yet, they continue to live on in my mind, sometimes resurfacing without warning and stirring up feelings of embarrassment, shame, or even self-doubt. While some of these stories may have been difficult for me to revisit, they are essential to understanding the emotional foundation of the project, and the personal journey that led me here. Now, as a college student, I've started to make sense of how those early experiences affected me both in and outside of the classroom. Whether it was feeling hesitant to speak in certain spaces, second-guessing my ideas, or struggling to feel like I truly belonged, the experiences of childhood racism and stereotyping lingered. At the same time, coming to college also became a place of healing. Through friendships, cultural affinity groups, classes, and finally this thesis project, I began to understand my story not as a burden, but also as a source of strength. A source I can look back upon to remind myself how much I have grown. Healing didn't happen all at once, and obviously, I'm still in the process. But being able to revisit these memories, acknowledge their impacts, and to share them has helped me understand myself. I've learned that healing can come in many forms: community, solitude, creativity, time, and most importantly, learning to forgive my past self for the parts I always felt ashamed of.

In chapter 3, I will explore the world of text-based art, including its definitions, history, and evolution throughout the years. Since the core of my website revolves around ASCII and Unicode art, this chapter will also talk about what these forms of digital expression are, their purpose, how they work, and how they are used today. I will trace back to their origins, from early computer systems that relied on ASCII characters, to the more recent years where Unicode's vast range of symbols and scripts exist. This chapter will also touch on how people create and input these symbols themselves, explaining the process behind something that might seem so technical.

Chapter 4 will focus on the heart of the thesis: the interactive website that invites users to experience a digital recreation of my high school life. This website is a narrative experience designed to reflect my emotions, habits, and internal dialogues that defined my daily routine. Built using a combination of ASCII and Unicode art, interactive elements, and narrative storytelling, the website allows users to move through a fictionalized "day in the life." In this chapter, I will walk through the website page by page, explaining the choices behind each scene and interaction, along with the emotions tied to each moment. Each page, no matter how small or insignificant it might seem to others, contain a deep meaning to me that seem to still linger in my mind to this day. Whether it's the anxious quiet of morning alarms, the isolation of classroom seating, or even simply crossing the road, each page reflected a complex emotion. This chapter not only serves as a guide for the website I've created, but also as a deeper personal reflection on the memories that I still remember, including the broader cultural and artistic elements that connect them.

# Chapter 1

## Stereotypes

Stereotypes are more than just labels. They are silent expectations, shaping the way we see other individuals and how we are seen in return. They dictate the roles we are supposed to play, the limits of who we are allowed to be, and the paths we are expected to follow. Whether it is based on race, gender, culture, or personality, stereotypes simplify individuals into vague categories, which can lead to misrepresentation, prejudice, and discrimination.[[1]](#footnote-1)

Some stereotypes may look completely harmless at first glance, maybe even considered compliments. "Asians are smart,"[[2]](#footnote-2) "women are nurturing," "men are natural leaders." But beneath these seemingly positive assumptions can be something far more harmful to individuals, which can also result in pressure to comply with those assumptions. For example, a child who loves art but is constantly told that they must be smart in math or in the sciences may start to question their passions and dreams. A girl who enjoys weightlifting may start to wonder if she is somehow "less feminine." A boy who is sensitive and emotional may feel forced to bury his feelings to maintain his masculinity. The weight of these expectations builds over time. What starts as a passing remark starts to become an unspoken rule. People who don't fit societal expectations may feel ashamed of their interests, identities, or personalities, feeling forced to choose between authenticity and acceptance. Even individuals who might align with some of these stereotypes are not free from the long-lasting effects. They may feel like their worth lies on how well they uphold these assumptions.

More dangerously, stereotypes don't just shape individuals' identities, but they can also influence how society treats people. This was evident during the COVID-19 pandemic, when hatred toward Chinese people along with those perceived to be of East or Southeast Asian descent, increased worldwide.[[3]](#footnote-3)

## History of Stereotype

“Stereotype” as a word, like many others, originally meant something quite different. It was a method in which metal plates were used to transfer text and images to a page consistently back in 1798 from the French language.[[4]](#footnote-4) But outside of printing, the word “stereotype,” by 1819, had begun to take on a more figurative sense, referring to ideas that are "fixed firmly, continued, or constantly repeated unchangeably,"[[5]](#footnote-5) much like the previous definition of consistent replications of printed stereotypes. By the mid-20th century, "stereotype" had begun to take on the modern definition we associate the word with today: an oversimplified idea or image of a person or group.

Though the term “stereotype” in its current meaning wasn’t defined until the mid-20th century, the idea behind it has been around for thousands of years. Throughout history, human society has used simplified assumptions and generalizations to individuals and groups of individuals based on their race, gender, occupation, or culture. These early stereotypes were often influenced by cultural myths, folklore, religious beliefs, and societal systems that shaped these broad ideas and expectations.

When it comes to Asian stereotypes, a historical example of racial stereotyping comes from the treatment of Chinese immigrants in the United States during the 19th and 20th centuries. In the 1850s, Chinese workers migrated to the United States during the California Gold Rush in the gold mines and later worked on building railroads in the west.[[6]](#footnote-6) As Chinese workers increased and grew more and more successful in the United States, so did the strength of anti-Chinese sentiment among other workers in the American economy. Chinese workers were often depicted as cheap laborers with no personality, ambition, or family life[[7]](#footnote-7), shaping this idea that Chinese immigrants were not fully human, while also being a threat to Americans that the Chinese were taking away their jobs and land, deeming them to be unfit into American society. This caused the rise of the ",model minority myth" in the 1950s and 1960s, a sociological phenomenon that refers to a stereotype of Asian Americans as inherently successful, often portrayed as math whizzes, musical geniuses, or quiet, hardworking overachievers.[[8]](#footnote-8) This then resulted in the Chinese Exclusion Act of 1882, which prohibited Chinese workers from entering the United States, and placing heavy restrictions on those already living in the country.[[9]](#footnote-9) This law was a result of racist stereotypes that portrayed Chinese immigrants and workers as a threat to American jobs and culture, which also eventually led to growing anti-immigration as well, a justification for discrimination that still persists today. The anti-Chinese labor sentiment became so popular that in 1862, Abraham Lincoln signed an "anti-coolie" bill that banned transportation of 'coolies,' a derogatory code word for low-wage and unskilled laborers, typically those of Chinese or Indian descent.[[10]](#footnote-10)

## Present Day Chinese Stereotypes

Even after many years of progress and civil rights movements, harmful stereotypes and racial biases towards Chinese communities persist today. While many of these prejudices have become more subtle compared to the past, their impact remains. These stereotypes often hide behind jokes, backhanded compliments, or casual assumptions, and they're predominant everywhere, from the media to school classrooms. Some of the same stereotypes that were once used to marginalize Chinese individuals decades ago continue to exist in new forms today.

Media played a vital role in shaping how we perceive groups of people, especially those we have little direct exposure to in our everyday lives. For many Americans, portrayals of Chinese individuals in film and television may have been their first, and sometimes, only point of reference. In the 1970s, the global rise of Hong Kong action cinema, along with iconic figures like Bruce Lee, helped popularize the image of the Chinese "Kung Fu master." Because these martial arts films made up a large portion of Western media representations of Chinese people at the time, this stereotype quickly became widespread until present day. This representation was later reinforced by other famous actors like Jackie Chan, who continued to shape public imagination through martial artis-centered films. Though these movies brought pride and visibility to Chinese culture, they also contributed, intentionally or not, to a narrow and repetitive portrayal of the overall Chinese community in Western media today.[[11]](#footnote-11)

Beyond the martial arts trope, there are several other common stereotypes about Chinese individuals that remain in Western society. One of the most common ones is the belief that all Chinese people, along with the broader Asian American community, are exceptionally intelligent, especially in math and science, or naturally gifted in areas like music. These ideas are rooted in the "model minority" myth. Though this stereotype might seem harmless at first glance, some Asian Americans feel the right to uphold this "model" of being obedient, hardworking, and academically successful. This places an immense pressure on individuals to meet unrealistic expectations, especially to those that might struggle to conform to these narrow ideals, which can eventually contribute to shame, isolation, and the silencing of real issues such as mental health challenges.

When the COVID-19 pandemic emerged, Chinese individuals and the broader Asian descent found themselves at the center of hostility, discrimination and violence. The virus was frequently referred to in politics and media with terms like the “Chinese virus” or the “Kung flu,”[[12]](#footnote-12) reinforcing the generalization that all Chinese people, or even all East Asians, were somehow responsible for the pandemic. This narrative led to a surge in xenophobia, hate crimes, and acts of aggression against Asian communities worldwide. In the United States, several instances of verbal harassment, physical assault, and hate-fueled attacks emerged. They were randomly yelled at on the streets, shoved in subways, punched in broad daylight, and blamed for the virus. One example occurred on March 14, 2020, in Midland, Texas, where a man stabbed a family from Myanmar, injuring three people, including a 2-year-old girl and a 6-year-old boy. When questioned by police, the attacker admitted that he believed the family was Chinese and was trying to spread the coronavirus.[[13]](#footnote-13) On another instance, on March 10th in Manhattan, a Korean American woman was assaulted by a man who grabbed her hair, shoved her, and punched her in the face, ultimately causing her to be hospitalized with a dislocated jaw. He shouted slurs such as "You've got coronavirus, you Asian (expletive)" and "Where's your (expletive) mask?"[[14]](#footnote-14)

Although, stereotypes are not only set by individuals outside a culture, but can also be reinforced from within a culture as well. These internal stereotypes stem from long-standing traditions and beliefs, historical biases, and societal expectations that still hold strong today in our society.

# Chapter 2

## My Birthplace

I often wonder how different my life would be if I had been born in Hong Kong instead of the United States. Would I still be here, writing this? Would I have grown up in the same schools, spoken the same way, or even held the same citizenship?

The outbreak of severe acute respiratory syndrome, or SARS, first emerged in November 2002 in Guangdong, China, before it rapidly spread to Hong Kong, turning the place into one of the largest infected areas. Hospitals were overflowed and the crowded streets now empty. It was during this uncertainty that my mother decided to travel to New York City, where some of our relatives lived, to find a safer place to give birth to me. Because of that single decision, I was born in the United States, not Hong Kong. And though it didn't seem like a significant event to me at first, I sometimes find myself wondering how much of my life was quietly shaped by that one choice. Would I have grown up with a different sense of identity? Would I have ever come to America, or gone to college here? Would I still eventually hold the same citizenship? Would I still carry the same questions about belonging? Or perhaps I would be living and studying in Hong Kong?

A few weeks after I was born, my mother and I returned to Hong Kong, where I met my father and older brother for the very first time. Though my memories of those early years are foggy, certain moments still stand out, fragments of a past that feel distant yet strangely vivid at the same time. I remember the high-rise apartment we stayed in, so high up that the city below felt like an entirely different universe. For some reason, the memory of me choking on a fish bone during a dinner meal stuck with me far longer than any other. And, of course, I remember the mischievous adventures led by my older brother, like how the two of us giggled menacingly as we sent pieces of gum out our high-up apartment window to the city below.

Aside from those mischievous and somewhat strangely detailed memories, I also recount the first of many endless strict lessons by my father. He was always determined to teach me new skills at a very early age, believing that a little challenge would be the quickest and most effective way for me to learn. Around the age of two, he decided it was time for me to learn how to swim. At our apartment complex’s swimming pool, he simply tossed me into the water. There was no gradual introduction, no floaties, and no gentle coaxing. Just the sudden shock of being submerged, limbs flailing as I struggled with the unfamiliar and new environment. Of course, my father was always right there, ready to save me if I was truly drowning, but in that moment, it was sink or swim. This was my earliest memory of learning a new skill, but looking back, I don’t remember anything of what happened after being thrown into the water, though I strangely have a very detailed visualization of what the pool and its surroundings looked like.

## Poise and Respect

Growing up, my father would always teach me to be respect, poised, and … (more words I can’t describe right now). If someone was standing up talking to me, I had to make sure to stand up as well. When sitting down, I always had to make sure to cross my legs, sit still, and not make any noise. And if I was getting bullied or picked on, he taught me to mask my sadness or hurt behind a smile and ignore them.

Though I definitely don’t really regret anything he taught me about being poised and respectful, being taught to try and ignore and smile my way through it made me into an overly sensitive and emotional person to the tiniest things. One time in class, when I got up to go to the teacher’s desk to drop off my homework, I returned to my desk to see that my pencil has mysteriously gone missing. Looking around, on the floor perhaps I dropped it, before I heard giggles from the group of guys sitting next to me. It was obviously they stole it, but when I asked them abvout it, they shrugged and said they didn’t know what I was talking about. I remember going into my next chemistry class incredibly sad, on the verge of tears, not because of the fact that they stole it, but because of the fact that my brother had given me that pencil. Even though the pencil was just another plain pencil I could’ve gotten in my local WalMart, the thought of losing the pencil my broher given to me broke my heart for some reason. That I would have to ask my brother for another pencil. Even if the pencils were less than $50 per pencil back then, it didn’t madder. I recall looking up at the ceiling during the lecture to ensure my tears wouldn’t fall. In the end, the guys did end up returning the pencil back for me. Though I was filled with relief, at the same time, I began to overthink: did they see me as a crybaby after seeing me so emotional over one little pencil? Did they think I was being lame for being so sentimental over one little pencil?

Another very short memory was the time my father and I were at the car dealership. Being a child with immigrant parents who doesn’t speak English, I was a constant translator for everywhere they went. I would translate each mail they received, be the translator between them and someone else, writing their emails and letters for them, and even translating important documents for them. While we waited in the lobby as our car was being fixed, the worker entered the lobby through the door, informing us that the car was finished and that we could go to the front desk and pay, where I, said thank you. Just that short interaction between me and the worker, after we left the car dealership, I vividly remember my father lecturing me for the rest of the carried home that whenever someone was talking to me to greet me, I had to make sure to stand as a respect of acknowledgement, telling me that my manners was incredibly disrespectful when I continued to sit and listen to the worker talk to me.

## Elementary School

Entering elementary school in the United States knowing no English whatsoever was difficult. I had my own ESL (English as a Second Language) teacher to teach me the beginnings of English, and because she didn’t know Chinese, it was difficult to sometimes communicate between us. She would use pictures to get the point across and would do mini lessons in the tiny private room that we had.

Even though learning a new language and attended school at the same time was difficult for my younger self, when I think of my elementary school days, all the memories were all very positive. I recall the same classmates I saw all the time, and looking back, I would label them as my first friends ever in life. I recall even having a “best friend.” Though she lived in the next town over, we hung out frequently at my house or at school. I even recall the time when I threw a childish tantrum when my father didn’t allow her to come over due to snow, ice, and safety reasons. We did many endless things together during school, laughing, and we always sat together during lunch time. I would even accompany her before the school bus arrived to pick her up.

Because I knew violin and piano, that was what I was known for throughout most of my elementary school life. My father liked to push and challenge myself, because that was how I learned and grew the fastest. He encouraged me to sign up for the school talent shows to perform the piano and violin for multiple years. I remember at around the age of 7, I performed an accompaniment piece, and my best friend sang on stage.

Elementary school felt so at peace, and I always recalled being so welcomed by the staff and teachers as well. I don’t recall a single moment where my race and identity affected me during the young days, and I never felt like my race, culture, and what I looked like ever mattered, because no one did care. Whether it was because I was surrounded by children who didn’t know the concept of race or culture, or [something else], I never felt unwelcome from the world due to my race.

## Middle and High School

My social life crumbled the moment I transferred to a new school at the start of my sixth grade. Everything I had known—the familiar faces, the unspoken routines, the comfort of belonging—was suddenly gone. Instead, I found myself in an unfamiliar town, surrounded by students who had already formed their own close friend groups with their own inside jokes and shared childhoods and stories. I was an outsider in every sense of the word. Though I had always been one of the few Asian students in my previous school, it never felt as isolating as it did here. For the first time ever, I became painfully aware of how different I looked, how out of place I felt. I had no one I felt confident enough to talk to, and no one seemed particularly interested in the new Asian kid who had just arrived either.

Though, at first, there was one person. One student who, for a brief moment, made me feel like I was not completely invisible. They were the first friend I made in that strange, unfamiliar school. We spent time together, bonded over shared interests, and for a while, I thought I had found someone who saw me beyond just the "new Asian kid." But then their strange requests began. "Can you help me with my homework?" turned into "Can you do my homework?" At first, I didn't question it. I was eager to keep a friend, eager to feel useful, to feel like I had something to offer. But slowly, the realization crept in that I wasn't truly their friend. I was just a convenience and a tool for them to keep around for their advantage. Whether they assumed I was smart simply because I was Asian, or whether he saw me as the easiest person to manipulate, I'll never truly know. But the moment someone finally pointed it out to me, the hurt was immediate and undeniable. I hadn't even attempted to deny it, because deep inside, I knew it was true.

There were mornings when simply waking up filled me with stress, when the mere thought of stepping out of bed filled me with a quiet, suffocating anxiety. It wasn't just about school itself, but everything leading up to it, the tiniest moments that should have been insignificant but instead became overwhelming obstacles. Even something as simple as crossing the street felt like a challenge. I would stand at the crosswalk, heart pounding, afraid that no car would stop for me, that I would be left standing there, waiting endlessly, invisible to the world.

Simply entering the school was no easier. If someone was in front of me, I made sure to keep my distance, carefully calculating my steps to avoid drawing attention. The idea of even a brief interaction, a passing glance, or an accidental conversation filled me with deep dread. It didn't matter if I knew them or not. The possibility of being noticed, of being made fun of for no reasons I couldn't even predict, was enough to make me try and avoid interaction.

Then there was the cafeteria. The moment I stepped through those doors, I was immediately confronted with a question in my mind: Where do I sit? Who do I sit with? The fear of having no place to go, of wandering aimlessly with a tray in my hands as I searched for a seat that didn't exist, made my stomach twist. At the same time when my usual familiar classmates that I sat around were absent, walking into a classroom only to find that I would be sitting alone in a group of desks, the loneliness felt unbearable, as if there was a spotlight on me. Even assigned seating, something meant to take away the burden of choosing, became another source of stress. What if I ended up next to someone who was rude? But at the same time, what if no one sat next to me at all? The sight of empty chairs on either side of me, even if it was completely coincidental, felt like confirmation that nobody wanted to be around me. That I was an afterthought, someone easy to ignore.

All these experiences eventually shaped me into someone who overthinks even the smallest things, someone who feels emotions deeply and is easily affected by the actions and words of others. I became hyper-aware of how I presented myself, always making sure to be poised, respectful, and considerate, sometimes to the point of tears from the feeling of suffocating myself with my own thoughts. For example, every morning before school, I would find myself standing outside my father's room, hesitating and debating whether I should wake him up to drive me to school. My mind would race with conflicting thoughts: Was I being selfish? Would he be upset for waking him up? Would he find me uncapable because I couldn't walk to school alone? But what if I run into people on my way to school? I knew he usually went to bed late, that he was exhausted, and the idea of disturbing his rest filled me with guilt. I would either imagine his frustration or his forced smile, or even the possibility of a sigh or a groggy complaint, and it would be enough to make me step back and decide to walk to school alone. No matter how much I dread it, it always felt like the better option. At least that way, I didn't have to carry the weight of feeling like an inconvenience or burden to someone I cared about, and someone who cared for me as well. Even though I knew that he would most likely be more than happy to drive me to school, and that he had driven me before without issue, my mind still latched onto the possibility that this time would be different. That this time, I would be asking for too much. That this time, I would be the reason he didn't get enough rest. It always felt like that. An endless loop of overthinking the smallest things and eventually convincing myself that my needs weren't important enough to be voiced.

Due to the wave of anxiety and stress I usually endured in the mornings, I rarely had an appetite. Sometimes, I'd be reminded by something small I said or did the day before, feeling a sense of embarrassment and shame. Each morning, I mentally prepared myself for every possible interaction and try to imagine what I should and shouldn't do. There were days when I told myself I would stay quiet the whole day, not speaking a single world unless the teacher talks to me. All that constant overthinking made breakfast unbearable. I couldn't stomach anything, and food in the mornings made me incredibly nauseous. On the days I would try and eat something, I would always eat just a few spoonfuls of cereal to satisfy my stomach until lunch hour arrived. Eventually, my body had gotten used to rejecting the idea of eating in the mornings entirely, and breakfast soon disappeared from my routine.

It felt exhausting, feeling this way over such tiny things that are supposed to be insignificant. These small moments, the ones that others didn't think twice about, became such heavy weights on my shoulders. I was constantly on edge, overthinking, anticipating the worst, trying to prepare myself for the possibility of rejection at every turn. And the worst part? No one knew. Not even my parents, because I was too afraid that they would see me as someone weak or incapable of being independent. To everyone else around me, I was just another Asian student going about my day, but inside, I was fighting a quiet and internal battle, one where even the simplest parts of my daily life felt like something I had to calculate to survive and move on.

## My Online Persona

Around the age of 11, I had discovered a source of happiness that would carry me through some of my loneliest years. My brother introduced me to Steam, an online platform where users could purchase, download, and play video games, both solo and multiplayer. But it was also more than just an online video game store. It also contained a large community where strangers could come together, game, and connect.

The first multiplayer game I ever played was Counter-Strike: Source (CSS), a first-person shooting game that held many servers of all kinds for players to play in. Each server was like little worlds to me, filled with players, chatting, joking, and hanging out. Over time, I found myself forming friendship with people I've never even met in person. They were never just fleeting connections either. As I eventually became an admin on one of the servers, I soon made a very close group of players who had become some of my closest friends in general. While others would find talking to strangers on the internet risky and dangerous, I found it to be a source of social happiness. While most adults around me warned me of the dangers of talking to strangers online, I found comfort in it.

Over time, I grew close to many of the people I met online. There was something incredibly comforting about being able to hide who I really was. Online, no one saw me as the quiet and smart Asian kid. No one asked where I was from, what language I spoke at home, or made assumptions before properly meeting me. I could just be, without the weight of racism and stereotypes. Though I was always too shy to use voice chat or hop on calls, I always felt at home in messaging and texting. Whether it was in-game chat or messages through Steam, typing became my main form of connecting with online friends. Eventually, we moved to Discord in January of 2017, a platform designed for more in-depth communication, from messages to voice and video calls. We built a server together, and over time, it became its own little world where we'd log on just to chat, laugh, or vent after a long day. I ended up forming strong friendships with people I genuinely enjoyed being around. Of course, I never revealed my real identity, and instead, went by my online persona name, Anastasiya, a name I had chosen purely because I thought it sounded cool. According to the backstory I made up, Anastasiya was from Brisbane, Australia, because again, I thought it sounded cool. It felt like living in my own little fantasy world where I got to create my character's story from scratch and getting to live as that person. No one questioned it. No one cared. And that's what made it feel so safe to me.

Discovering that space of comfort, meeting all those wonderful people, even if they were online, quickly became one of the few things I truly looked forward to each day. During a time when everything else felt heavy, logging on felt like freedom, joy, and my version of coming home. With my parents constantly working 12-hour shifts, six days a week, from 9am to 9pm, they were rarely home. I never dared talk to them about my problems and internal struggles, having believed that I would be a burden and wasting their rare hours of rest. Most mornings, I'd wake up before they did, and most nights, I'd go to bed before they returned. So, when the final bell rang at school, I didn't walk home just to relax and reflect on my stressful and isolated day. I rushed back to something that made me feel happy. I'd hurry back to my room, hop onto my computer, and reconnect with the people who were waiting for me, who made me laugh, and made me feel seen, even without ever seeing me. They felt like a lifeline during a time when I didn't really feel like I had one anywhere else.

## The COVID-19 Pandemic

When the country announced the stay-at-home order for COVID-19 in early 2020, I remember feeling something I hadn't felt in a long time: relief. While many saw those years as some of the most isolating, stressful, and painful times of their lives, for me, it felt like a very quiet sanctuary. It felt like a break from all the pressure and expectations that had weighed me down for so long. That time was when I felt the most at peace and the most like me. Whenever people ask the highlights of my high school life, I would always say without hesitation that my late junior and senior year was the best time, because it was the times I felt like I could breathe.

I didn't have to force smiles in the hallways, fill conversations with empty words, endure the harsh expectations and words from my classmates, or push myself to be an overachieving Asian student that I was expected to be. The exhausting interactions, the endless isolations, the endless need to perform, to be someone I wasn't. It was all gone in an instant. Instead, I spent my days in the comfort in my house, in my room, with my online friends, and with my parents. Even now, the memories of that time are wrapped in a deep sense of nostalgia. The scent of freshly brewed coffee, the quiet rustling of my mother stepping into my room mid-class, placing a plate of breakfast beside me. It was always the same breakfast: a sandwich with eggs and bacon on brioche buns, paired with coffee with minimal sugar and lots of milk, just the way I preferred it to be. That simple gesture, even though it was repeated day after day, became a comfort unlike any other. And now, whenever I even smell the scent of coffee beans or eat any type of breakfast sandwich, I am immediately brought back to those peaceful days. It was also a reminder that, even in the middle of a global chaos, there was warmth and care around. Even now, simply waking up very early in the morning in my own room back home brings me back to those mornings as well: the slight glow of the sun in the morning hours peeking through the curtains, the feeling of being wrapped in the cozy warm blanket that always smelled like the detergent we used, as I listened to my teachers teach, all of it is imprinted into my memory like an old, nostalgic song.

## College

Upon entering college, I carried a lot of anxiety, nervous about stepping into yet another unfamiliar social environment, fear that it would just be a repeat of my four years of high school, and the fear of isolation loomed over me like a grey cloud. But to my relief, I quickly discovered that I wasn't alone, not just in the general sense of being a new student, but for the first time in years, I wasn't one of the only Asians in my community. In fact, I was surrounded by a vibrant and diverse community of students who shared similar backgrounds and experiences, and students all over the world. My dorm wing alone, consisting of around 20 students, had American-born Asian students, as well as an international Chinese student, making the space feel so much less foreign and less daunting for me.

During orientation week, with excitement and anxiety intertwined at the same time, I realized that I needed to quickly find my own group of people. I had spent too many years struggling to fit into spaces that had already been established without me. This time, I was determined to find my place before everyone settled, before everyone had formed their own friend circles, and I was left hesitating on the outside. It wasn't easy, of course. I had always been shy, and social anxiety made every introduction felt like an uphill battle, but I had tried my best to push past my fears and gained just enough confidence to sought out students I felt drawn to, people I instinctively knew I wanted to befriend. I forced myself to start conversations, to step out of my comfort zone, even if my heart pounded in my chest with every word exchanged in interactions. What began as a single interaction and a simple conversation with just one person in my dorm wing, quickly stemmed into something much larger over the years. That one friend introduced me to others, and soon, friendships began to form naturally and effortlessly.

I have made more friends and connections during my time at Reed than I ever thought possible, and more than I ever had in all the years leading up to college. These aren't just acquaintances or students I occasionally talk to in class. They are friends who bring me comfort, who make me feel seen and understood in ways I would've never expected. I have a friend I'd wholeheartedly consider my closest and best friend; someone I can confide in without fear or judgement. I have friends who I would consider family, whose presence makes Reed feel less like a college and more like a home.

There have been many moments during college that steadily built up my self-confidence piece by piece. One of the first moments I was very proud of was when I got hired as a Paideia Czar. It was the first real position I ever held, and it felt huge. As a Paideia Czar, I was responsible for helping organize one of Reed's biggest events of the year: an entire week of workshops and activities taught by students, staff, and alumni to celebrate curiosity, creativity, and learning just for fun! At the time, my resume was practically blank. I had no work experience, and definitely nothing that really stood out. But thanks to the encourage and slight push I received from friends, I applied anyways, even though I was fully convinced I'd be rejected. Even after the interview, I remember closing my Zoom call and thinking, "Well, at least I tried my best." So, when I got the acceptance email, I genuinely couldn't believe it. For a split second, I wondered if maybe they sent the email to the wrong person. But it wasn't. It was real. That moment became what I now see as my first major achievement at Reed. It was proof that even though I was a student who stuttered on their worlds constantly, held very little self-confidence, and had no optimism whatsoever, people saw potential in me I didn't yet see in myself. And from there, everything began to shift. That one "yes" gave me the courage to try for more. Slowly, I landed job after job across campus, each one incredibly different from the last, and each one helping me develop new skills, meet new people, and step a little further out of my shell.

Of course, even as I've grown and gained confidence in many areas of my life, anxiety and my habit of overthinking even the smallest, most insignificant things, never truly left me. I still have many issues when it comes to speaking with others and in public spaces, especially in the classroom. The words, "let's go around the room," always makes my heart race immediately. It was the dread of having to speak publicly without a script, without notes, without proper time to prepare and calculate my every word and hand movement. Even when I have something I genuinely want to contribute to a discussion, my brain starts racing: What if what I say is completely wrong? What if it's not just wrong, but somehow offensive or inappropriate? What if people judge me? What if they look at me funny? By the time I start to sort through my thoughts and build up the courage to speak, the moment has usually passed. The class has already moved on to another topic, and my words stay trapped in my throat before the regret of not having spoken hits me. It's frustrating, especially since in my head, I have so much to say, but I so rarely actually say it, unless I'm directly called upon. And even then, even when I am called on and I've rehearsed my thoughts a thousand times in my head, the same thing would happen. I begin to speak, only for anxiety to creep in mid-sentence, scrambling everything I had planned to say. I stutter, lose my train of thought, forget basic vocabulary, and end up blurting out a response that sounds nothing like what I had originally intended. In those moments, I sometimes feel like a broken robot with a few gears loose, or maybe even a third grader trying to string together a sentence in a language I barely know, even though I do know it. This is something I've carried with me through all four years at Reed. No matter how much I've grown, this part of me still exists. But I'm learning to be more patient with myself, to try and see these struggles not as failures, but possible moments of a long journey toward better communicating.

Imposter syndrome is very common at Reed, and even after all four years at Reed, it’s still something I have and constantly eats away at my mind. I’m constantly surrounded by incredibly smart and, in my eyes, very successful people. For example, one of my friends got an internship at Disney, another has secured a full-time job at Apple, and many friends have big dreams and have already achieved or close to achieving their dreams. But me? My interests change every year, and I’m struggling to find what field interests me the most. Through my role as a Peer Career Advisor (PCA) through the Center for Life Beyond Reed (CLBR), where I advise students on anything career-related, helping them with resumes, cover letters, preparing for interviews, or similar, I constantly encounter students that, in my eyes, look very successful. I have met many students that know their passions, their dreams, and seem to have their life figured out, knowing what kind of jobs they want. Some of these encounters definitely made me wonder why I was the one advising them. Shouldn’t you advise me instead? I always lost a little self-confidence sometimes whenever I am surrounded by those people, but I always do remember to remind myself that I am only seeing these people on the outside. I don’t know their internal thoughts, and I certainly don’t know their internal struggles.

Over the years, many students at Reed continuously talk about how incredibly predominately white the campus is and how the campus isn’t diverse, but to me, I have never felt a more diverse place in my life.

If my high school self could see the life I've built here, she wouldn’t believe it. She would probably scoff, roll her eyes, and dismiss it as some cruel joke, a prank meant to give her false hope. Back then, she had already resigned herself to loneliness, convinced that deep connections and friends weren't in the cards for her. The idea that she would one day be surrounded by people who genuinely cared for her, who valued her presence, would feel more like a dream and fantasy than reality. But it isn't. It's real. And I wish I could reach back in time and tell her that. To tell her to hold on, and that one day, she would find the people who would make all the loneliness worth it.

Although, college wasn’t the only thing after high school that changed my life. My trip to Hong Kong and Japan during the summer of 2024, as cliché as it sounds, changed my personal life. I’ve learned so much about the lifestyle around both cultures, and it felt like I discovered a part of myself that I never existed, an inner Asian part of me I never knew existed and finally opened that door of self-(word?). After that one-month trip, I felt like I totally changed as a person. My whole fashion sense changed, I started taking care of myself more, and (more things). Where I was once I felt like a totally different person starting my senior year. I have never felt more confident in myself than now.

# Chapter 3

## What is Text-Based Art?

Have you ever typed a simple ":)" in a text message? Or perhaps a ":P" or ":D" to express an emotion? If so, you've engaged in text-based art without even realizing it! Text-based art involves creating visual representations using the characters available on a keyboard, transforming ordinary text into images or graphic designs.

One popular form of text-based art is ASCII art, which utilizes the American Standard Code for Information Interchange (ASCII) character set. Dated back to the 1960s, ASCII is comprised of 128 characters, including letters, numbers, punctuation marks, and control codes. Artists creatively arrange these characters to form images, which can range from simple faces to complex designs. For example, a basic smiley face ":)" is a minimalist form of ASCII art.

Beyond ASCII, other forms of text-based art also exist, particularly in regions with different writing systems. In Japan, one of their most popular forms of text-based art is Shift\_JIS. These art forms use the Shift\_JIS character set, which is an extension of ASCII that includes a wider array of characters from Japanese scripts. Unlike Western ASCII art, which is typically limited to monospaced fonts, Shift\_JIS art is designed for flexibility when it comes to proportions and width by using fonts like MS PGothic. This approach allows for more detailed and expression creations. While some emoticons are read sideways ":)", Kaomojis are oriented upright, which makes them more recognizable. For example, “(・。・;)” represents a troubled emotion with a sweat drop, while something simpler, like “(^\_^)”, represents a smiley face.[[15]](#footnote-15)

Another foundation of text-based art is Unicode, which as of version 16.0 consists of 154,998 characters[[16]](#footnote-16) and 168 scripts.[[17]](#footnote-17)

## ASCII

ASCII, which stands for American Standard Code for Information Interchange, is one of the earliest computers writing systems developed to help computers understand and represent text. Before computers could easily display words and sentences like they can today, they needed a way to turn letters, numbers, and symbols into something computers could process and store. ASCII does this by assigning a unique number to each character. Currently, the ASCII system has 128 code points, and out of those 128, 95 are printable characters, like letters, numbers, and symbols. The remaining 33 are non-printable control characters, which were meant to manage how text is displayed or transmitted.

### History of ASCII

Before all computers could easily communicate with each other, different manufacturers had their own unique way of representing text and numbers, which made it difficult for other different computers to share the same information smoothly. In response to this problem, ASCII was developed in the early 1960s by the American National Standards Institute (ANSI), whose goal was to create a universal way for computers to represent text and numbers, ensuring that all systems could understand and display the same characters.

At the time, teletype machines, which were essentially typewriters connected to communication networks, were widely used for sending and receiving messages between senders and operators. These machines worked by converting typed characters into electrical signals that could be transmitted over long distances and printed out on another teletype machine at the receiving end. The use of ASCII provided a standardized way for teletype machines and early computers to all encode the same texts and characters, making it easier to share information between devices smoothly.

The first version of ASCII was released in 1963, and by 1967, it became widely used in computers, which ensured smooth communication, before it was officially adopted as a standard across computers in 1986. Since then, ASCII has served as the foundation for many modern systems, with many systems, including UTF-8 and Unicode, expanding the standard to include languages beyond English.

### Understanding ASCII

ASCII is based on the English alphabet, consisting of 128 specified characters. Each ASCII character is assigned a unique numerical code, which I like to compare it to how elements on the periodic table are identified by their atomic numbers. Just as hydrogen (H) has the atomic number 1, the letter "A" in ASCII is always code 65. Of these 128 ASCII characters, 95 of these characters are printable, which include the digits 0 to 9, lowercase letters from a to z, uppercase letters from A to Z, and punctuation marks like !@#$%^&\*(). The remaining 33 characters are non-printing control codes, which were originally designed to communicate with early teletype machines to perform special functions. Most of these control codes today are no longer commonly in use or simplified for easy use. For example, the control code BS (Backspace, code 8) told the teletype machine to delete the last character, which we now know today as our “Backspace” (or “Delete” on Mac) button, while LF (Line Feed, code 10) told the teletype machine to go to a new line, which is more commonly known as our “Enter” or “Return” key today.

While some control codes are still in use today, several others have become obsolete or rare in modern computing. For example, BEL (Bell, Code 7) was originally used to make teletype machines ring a physical bell, mainly used for communicating an error or important alerts before modern computers had screens to visually inform the operator when the computer runs into an error. NAK (Negative Acknowledge, code 21) was used in early networking and data transmission to signal that a message was rejected due to some kind of error. This would inform the sender that it had been received incorrectly so they could adjust or resolve the problem accordingly before resending it to the operator once more.

Each ASCII character is assigned a unique numerical code that allows computers to store and understand text. These codes are typically represented in both decimal (base 10) and hexadecimal (base 16) formats. While we use decimals in the numbering system in our everyday life, hexadecimals are most commonly used in computing because [becauase...]. Hexadecimal uses the digits 0 through 9, followed by the letters A through F to represent values. So 0, 1, 2, ..., 9, A (which equals 10), B (11), and so on up until the letter F (which represents 15).

To take an example, the letter "A" in ASCII has a decimal value of 65 and a hexadecimal of 0x41. To break down “0x41”, the “4” represents 4 times 16 (since hexadecimal is base 16), which is 64. The “1” in “0x41” represents 1 times 1, which is 1. Adding them together, 64 + 1 = 65. Hexadecimal format is also written with the prefix "0x", so that’s how the decimal value of 65 also equal the hexadecimal value of 0x41.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **0** | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **A** | **B** | **C** | **D** | **E** | **F** |
| **0x** | ␀ | ␁ | ␂ | ␃ | ␄ | ␅ | ␆ | ␇ | ␈ | ␉ | ␊ | ␋ | ␌ | ␍ | ␎ | ␏ |
| **1x** | ␐ | ␑ | ␒ | ␓ | ␔ | ␕ | ␖ | ␗ | ␘ | ␙ | ␚ | ␛ | ␜ | ␝ | ␞ | ␟ |
| **2x** |  | ! | “ | # | $ | % | & | ‘ | ( | ) | \* | + | , | - | . | / |
| **3x** | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | : | ; | < | = | > | ? |
| **4x** | @ | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O |
| **5x** | P | Q | R | S | T | U | V | W | X | Y | Z | [ | \ | ] | ^ | \_ |
| **6x** | ` | a | b | c | d | e | f | g | h | i | j | k | l | m | n | o |
| **7x** | p | q | r | s | t | u | v | w | x | y | z | { | | | } | ~ | ␡ |

### ASCII Art

While ASCII consists of the characters, ASCII art is a text-based art form and a graphic design technique that uses these characters to create a visual representation. Although nowadays, people refer to "ASCII art" to text-based visual art in general.

### History of ASCII Art

Before computers had visual graphic representations like the modern-day screens or projectors, text-based art was used instead. This form, which is now known as ASCII art, involves using characters from the ASCII to represent images, much like how each little pixel on modern screens create an image. However, the idea of using texts and symbols to create images existed before ASCII art.

Before ASCII art became the widely recognized form of text-based art, typewriter art was one of the first forms of text-based art that used characters and symbols.[[18]](#footnote-18) Since the invention of the typewriter in 1867, people not only used it for writing and typing, but also used it for creating images using texts and characters by carefully arranging, resizing, and rotating them. One of the earliest examples of typewriter art dates to 1889 when a woman named Flora Stacey created a framed picture of a butterfly.[[19]](#footnote-19) The entire picture was created with just a typewriter, including the butterfly where the lines were composed of brackets, hyphens, periods, and several "o"’s. The paper on the typewriter was turned and twisted in many directions, and each letter struck precisely on calculated spots. Like any other work created on a typewriter, there was no way to undo a mistake or miscalculation. One wrong keystroke meant starting over from the beginning. Unlike ASCII art, where the characters have a fixed width in a grid of pixels, typewriter artists had more flexibility by maneuvering the paper at various angles, overstrike characters for shading, or even using just a part of a character to create finer details. Some typewriter artists used tinted ink ribbons to add color and contrast to their creation as well. This form of text-based art gained popularity since then on but had eventually declined due to the rise of more advanced printing and digital technologies.

H H EEEEEE L L OOOOOO

H H E L L O O

HHHHHH EEEEEE L L O O

H H E L L O O

H H EEEEEE LLLLLL LLLLLL OOOOOO

Another early form of text-based art was RTTY (radioteletype) art, which emerged from teletype machines, primarily used for long-distance communication by printing texts sent over wires or radio signals. RTTY, similar to typewriters, had a very limited set of characters, primarily consisting of uppercase letters, numbers, and a few punctuation marks. **[I can’t understand what RTTY art is still… need to search up for later]**

After the development of ASCII and recognizing it as a standard for computers, RTTY operators and early programmers began experimenting with ASCII due to its larger variety of characters, numbers, and symbols. Some used ASCII art just for fun, creating simple images or messages, while others used it for practical purposes, such as using it to create early logos or decorating an advertisement board. As personal computers became more common in the 1970s, text-based interfaces became the primary way people interacted with computers rather than physical prints.

By the 1980s, the rise of Bulletin Board Systems (BBS), which was essentially an early form of social media where users could post messages and share files, also helped increase ASCII art’s popularity. Users decorated their online messages and forum posts with ASCII designs, often featuring designs such as border frames and simple art pieces. ASCII art became a recognizable part of online identity back then, and this trend soon carried over into email culture as well, where people added ASCII signature blocks to the end of their messages, such as a simple smiley face or a multi-line ASCII drawing.

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Although ASCII art was a popular trend for a few years in early online communities, it began to decrease in popularity in the 1990s as the popularity of graphical web browsers rose, introducing a more visually rich internet experience, where images, icons, and typography became a standard instead. Unlike the limits of text-based environment of BBS and early email platforms, these new web browsers allowed users to easily embed images such as JPEG, GIFs, and PNGs, which made ASCII art less essential as a means of visual expression.

## ANSI Art

While ASCII art uses the 128 standard characters from the ASCII set, ANSI (American National Standards Institute) art extends that further by using color and more characters. ANSI art uses 256 total characters, including line-drawing symbols, boxes, and shapes, such as ╚, ┌, and ╳. While ASCII is limited to just black and white characters, ANSI art also incorporates colors by telling the computer to simply change the color of the text’s foreground and background, even adding effects such as blinking.

## Kaomoji

Kaomoji, a term dervied from the Japanese words for "face" (顔, kao) and "character" (文字, moji), emerged in Japan in the 1980s as a way to express emotions and facial expressions by using text characters. Unlike Western emoticons where they are usually read sideways, like ":)" for a smile or ":(" for a frown, Kaomoji are typically read upright.[[20]](#footnote-20) By combining Japanese katakana, punctuation marks, and other special characters, users could create a variety of expressions, from happiness “(˶ᵔ ᵕ ᵔ˶)”, to surprise “( ˶°ㅁ°) !!”, or playfulness “(๑>؂•̀๑)”.

### History of Kaomoji

On June 20, 1986, at exactly 0:28 am, the oldest recorded instance of the first kaomoji was posted by Yasushi Wakabayashi[[21]](#footnote-21), the administrator of an online bulletin board related to people with disabilities, on ASCII NET, which is one of the earliest forms of Japanese social media. He had posted a (^\_^) smiley face.

The rise of kaomoji was during the same decade when emoticons in the United States were developing. While Western emoticons were primarily used by computer scientists and programmers at first, kaomoji served as an online signature of sorts, usually being placed after the sender's name in their online messages.[[22]](#footnote-22)

### Understanding Kaomoji

Unlike ASCII emoticons, kaomoji are not limited to characters found in the basic ASCII set, but instead, also incorporating Japanese kana, kanji, and special symbols from Unicode to create a wider variety of expressions. This can also allow for full-body gestures rather than just focusing on the faces.

The most basic kaomoji styles using characters from the ASCII set, with a focus on the emoticons’ eyes and mouth. For example, the character "T" is often used to represent tears, like (T\_T). Similarly, stress or exhaustion can be expression through faces like (x\_x). The semicolon ";" can be used as a sweat drop, like "(-\_-;)", which is a very popular element in manga and anime to indicate unease. Blushing or embarrassment can be shown using slashes and backslashes "/ \," which mimics shading on an emoticons cheeks "(// V //)". The great than ">" and less than "<" signs can also be used as eyes or facial expressions to convey various emotions. For example, "(>\_<)" can express discomfort, frustration, or an exaggerated cringe, which is often used in response to something embarrassing today. A slight alter to the emoticon, "(>\_>)" and "(<\_<)" can express a suspicious or skeptical look, since the emoticons' eyes look like they are darting away or around. The use of "(>w<)" is very popular today in Japanese cultures, representing excitement or playful energy, with the "w" resembling a scrunched-up, happy mouth, a very popular expression in anime and manga.

A variety of characters and symbols can also be used for the mouth, each conveying their own unique sense of unease, cuteness, or emotion. “^\_^” can be read as a simple genuine smiley face, but it can also be seen as an emoticon trying to put up a fake smile. Using “^.^” may be seen as something cuter than “^\_^” due to the simple use of the period as the mouth instead. Simply changing the mouths between “T^T” and “T\_T” can convey different emotions, with the former emphasizing a more dramatic, wailing expression, while the latter can suggest quiet sadness or disappointment.

## Unicode

Unicode is a universal standard that allows computers from all over the world to display the same text digitally. This is very similar to the purpose of why ASCII was created. While ASCII solved the issue of computers using different and incompatible ways to represent English letters, it was only limited to a small set of characters mainly for English. Unicode was designed to support the writing systems of languages worldwide by assigning a unique code to each character, ensuring that character appears the same across different devices and platforms. As of version 16.0, Unicode includes about 155,063 characters and supports 168 different scripts, covering languages from English and Chinese to ancient scripts no longer in common use. In addition to languages, Unicode also includes 3,790 emojis.

### Understanding Unicode

All Unicode characters have unique code points which are represented as "U+" followed by a sequence of hexadecimal numbers, serving as identifiers that computers used to store, process, and display. For example, "U+1F62D" corresponds to the loudly crying emoji, “😭", while "U+6C34" represents the Chinese character “水”, meaning "water."

Although, one challenge with Unicode is that different operating systems handle its implementation differently, which can lead to inconsistencies in input methods and the output displayed. A very basic different is how users enter Unicode characters. On Windows, Unicode characters can be inputted by holding down the "Alt" key and typing their corresponding hexadecimal numbers on the numeric keypad. Meanwhile, macOS typically uses the "Option" key combined with their hexadecimal numbers. This is also one of the reasons why we say "U+1234" rather than "Alt+1234."

Another complication could arise when it comes to fonts and rendering. Because each operating system and device have their own unique type of fonts that are being displayed on the screen, some Unicode characters might be displayed differently, or simply appear as a blank box, known as a “replacement box” or "tofu." For example, Apple devices primarily use the San Francisco (SF) font as their system font across all platforms, but many Windows devices use the Segoe font, and some characters might simply not exist in the operating system.

### Try It Yourself: Typing Unicode on Mac

To type Unicode characters on Mac, you first need to enable to Unicode Hex Input keyboard through your Mac settings. Here are the steps:

**Adding the Unicode Keyboard**

1. Open your **System** **Settings** / **System** **Preferences**.
2. Navigate to **Keyboard**, then **Input** **Sources**.
3. Click on **Edit** and the “**+**” button to add a new keyboard.
4. In the search bar, search for “**Unicode** **Hex** **Input**”, select it, and then click **Add**.
5. Click **Done**.

**Switching to the Unicode Keyboard**

1. In the top menu bar click the keyboard/input icon and switch to Unicode Hex Input from the list.

Now you can start inputting Unicode characters! To do that, simply hold down the **Option** key, and while holding the key, type the 4-digit hexadecimal code for the character. For example, if you try **Option + 2665**, you get ♥. You can even try and input random letters and numbers and see what surprise character you may get.

# Chapter 4

## Inspiration

Having previously worked on a similar and smaller project for my internet class with Aki, I found myself drawing inspiration from that experience to create something more personal. That earlier project had also been a website built entirely with ASCII art, teleporting users into a world where every detail—homes, streets, cities, even pets and animals—were crafted using characters and symbols. It wasn't just a visual experience, but also an interactive one where users can explore freely and engage with their environment.

The feedback I had received to that project in that class had been positive. My classmates found the ASCII art charming and unexpectedly creative and engaging. It was a reminder that art doesn't always have to be traditional to be impactful. Sometimes, even the simplest keyboard characters on your screen can create an immersive world when combining them together. Seeing how many people enjoyed navigating that world I had built, I had realized how much I valued interactivity between the users and the immersive world.

ASCII art takes me way back to when I was around eleven years old. That was when I first started playing video games, not just for entertainment, but also as a way to cope with the loneliness during my middle and high school years. While many kids seemed to move effortlessly through social circles and making new friends in real life, my social life was on the screen and towards a space that felt ironically and surprisingly safer, more welcoming, and more social in its own way. The first multiplayer game I ever played was Counter-Strike: Source (CSS), a first-person shooting game that held many servers of all kinds for players to play in. Each server was like little worlds to me, filled with players, chatting, joking, and hanging out. Over time, I found myself forming friendship with people I've never even met in person. They were never just fleeting connections either. As I eventually became an admin on one of the servers, I soon made a very close group of players who had become some of my closest friends in general. While others would find talking to strangers on the internet risky and dangerous, I found it to be a source of social happiness.

One of the earliest memories I have from that time is of a strange little text-based symbol that kept popping up in the chats often: the "lenny face" emoticon, ( ͡° ͜ʖ ͡° ), which symbolized mischievous and suggestive undertone. I didn't really understand the meaning of it at the time, but I had found humor and fascination in seeing it, so I started using it as well. That one emoticon opened the door to a whole new world of other emoticons for me and absolutely loved with how expressive some of them could be. Instead of using simple emoticons like ":(" or ":)", or even emojis in general, I found myself typing out faces like “¯\\_(ツ)\_/¯” when I wanted to seem indifferent, or “(ノಠ益ಠ)ノ彡┻━┻” when I was frustrated or angry. “(◕‿◕✿)” became my go-to for simply existing in a chat, a kind of presence that didn't demand too much. And I still remember the exact website I used to copy and paste these emoticons from: <https://textfac.es>.

I used them so much that eventually, I started binding these emoticons directly into the CS:S console. Each emoticon had its own hotkey. For example, pressing "2" on the numpad would instant send “¯\\_(ツ)\_/¯” into the chat, while another might send “(ﾉ◕ヮ◕)ﾉ\*:･ﾟ✧”. I eventually had binded it even into my phone keyboard as well to use during texting. It had begun to be a huge part of how I communicated in the online community for many years, up until the start of my college years when my presence in the online community began to decrease.

ASCII art would once again return to be my medium of choice, not just because of its aesthetic appeal, but because it felt like the perfect bridge between simplicity and creativity for me between the digital and the personal. So, for this project, I knew I wanted to take that idea a little further. I wanted users to navigate through pages on their own terms as if they were navigating a living and breathing space. Instead of being a spectator consuming a narrative, they would become active participants in it to encourage engagement. Although this time, the story wouldn't just be about exploring a world, but a way to tell my own personal story and journey.

Taking a graphic novels class with Daniel Duford while working on my thesis project, I drew a lot of the things I learned from that class into the project, especially when it comes to colors and paneling. The simple act of making the background black while the keyboard characters to be white gives that sense talking about the past, which is a very common technique in comics such as manga when the story refers to the past or recounts a character’s history.

Though there are various choices the users can choose, they will still end up experiencing the same things. This reflects the fact that even though many different thoughts consume me, making me want to do different things, in the end, I still end up doing the same things every day

## [Childhood.html](https://ycheuk.github.io/my_thesis_journey/childhood.html)

To start off the website, I wanted the users to have a very brief overview of my childhood, my motivations for this research, and my interests and end goal….

## [Morning.html](https://ycheuk.github.io/my_thesis_journey/morning.html) and [Mirror.html](https://ycheuk.github.io/my_thesis_journey/mirror.html)

Even to this day, I still set at least five alarms every morning to make sure I wake up on time. For example, if I need to be up by 8 AM, my phone will go off at 7:45, 7:50, 7:55, 8:00, and then at 8:10, just in case I somehow managed to sleep through all the previous alarms. I rarely ever miss my first alarm, but even so, I picked up this habit due to the anxiety of imagining what would happen if I did somehow miss my alarm. During high school mornings, my alarm would usually start ringing at 6:30 AM, but I rarely got out of bed right away. I would lie there, half-awake, either scrolling through my phone or drifting back to sleep, telling myself I had just five more minutes again and again, until I no longer had any more minutes to spare.

I always try to be out of the house by 7:30 AM, which meant I needed to be awake, at the latest, by 7:00 AM. But getting up was always a struggle, not just because of exhaustion, but because of how much effort went into preparing myself for the day. I never wore makeup and never wore anything extreme that would take a long time to prepare. I simply picked out my outfit, made sure my hair was perfect, and ensured I looked presentable enough to avoid judgement. I knew my classmates had a way of noticing the smallest things. They would often whisper about someone's outfit, hushed giggles when someone slips up mid class, and overall judgement all around. I knew how brutal some of these passing comments could be, and even imagining the least hurtful comment always filled me with anxiousness. I had heard them many times before, and I didn’t want to be the subject of their scrutiny.

I always avoided light colors. White, beige, light shades of yellow or peach, I was somehow convinced that they made me look fatter, even though I was very much aware that I was already incredibly thin at the time, even underweight. At the time, I also had very long hair, so long it reached down to my lower back, but I never wore it down, having been once associated and compared to Sadako, the ghost from The Ring, a sinister figure with long black hair covering her face like curtains. I always had thought that was just a metaphor for me appearing scary to others, so I either wore my hair in a high ponytail or a carefully made donut bun. Each morning, I would redo my hair over and over again, making sure it was perfectly symmetrical, making sure there were no loose strands, no misplaced hairs, and most importantly, no imperfections that someone could latch onto. Some days, this process took fifteen minutes, or even half an hour, when it could easily be done within a minute or so since it involved just a simple hair tie.

## [Hallway.html](https://ycheuk.github.io/my_thesis_journey/hallway.html)

I have always had, and still have, incredibly loving parents. In our family, openly saying "I love you" is rare, and expressions of affection are often unspoken rather than verbalized, which is very common in Chinese culture. My father had his own methods of raising me, ones that, as a child, I often resented. He wanted me to be "perfect." To be "respectful" and "poised." To be the kind of daughter who always upheld the family's values. Back then, I had always labeled him as "strict," even "cruel." I thought of him as someone with a short temper, someone impossible to please. But with time, I came to really appreciate the lessons he instilled in me, even if others, especially those from cultures where strict parenting isn't the norm, might have seen his ways as harsh, even brutal. Although, his teachings did have one large negative consequence that still burdens me to this day. The constant emphasis on respect, on always being considerate of others, made me overthink everything and become an extremely emotionally sensitive person. I became hyper-aware of how many actions might inconvenience someone, even in the smallest ways.

One of the clearest examples of this happened every morning before school. I would wake up, get ready, and then stand outside my father's bedroom door, listening to his snoring as he slept. I knew that if I woke him up, he would take me to school without hesitation. It would have put my mind at ease and saved me from facing the interactions I so badly wanted to avoid if I walked to school. And yet, I could never bring myself to knock on his door. Every morning, the same debate would happen in my head. Would waking him up be selfish? Would he be annoyed? Would he see me as a burden? Deep down, I knew the answer: of course he wouldn’t. He had never given me a reason to believe he would be angry at such small reasons. But that small, nagging fear never left me. It was the guilt of disturbing him when I knew how hard he worked. My parents both works tirelessly, working 12 hours every day, and the idea of interrupting his rare moments of rest just for my own convenience felt extremely wrong. And so, every morning, I swallowed my fears and hesitation, turned away from his door, and continued my morning to walk to school on my own. It became a routine, even though I always made the same decision.

## [Kitchen.html](https://ycheuk.github.io/my_thesis_journey/kitchen.html) and [Dining.html](https://ycheuk.github.io/my_thesis_journey/dining.html)

Breakfast has always been my least favorite meal of the day, and that still hasn't changed. It wasn't because I was picky, or... maybe I was. I would have happily eaten anything if my stomach had allowed it, but no matter what I ate, I could barely stomach eating food in the mornings. The small act of eating after waking up made me extremely nauseous, and every bite felt like a bottle. This was emphasized when it came to sweet foods, including pancakes, cereal, and pastries. Even savory options like eggs or bacon were slight better, but it still made me feel the need to gag. It never seemed to matter what was on my plate, and breakfast had always been a struggle.

To this day, I still don't know the real reason behind it. Maybe it was something physiological, maybe something to do with my immune system, but I never grew out of it. Although, at the time, I knew I didn't have much of a choice. I know I needed to eat at least something, because if I didn't, my stomach would growl loudly halfway through the morning, an embarrassing prospect that filled me, and surely many others, with anxiety. Eventually, I had given up trying to find a breakfast that wouldn't make me feel sick and settled for the simplest option: a small bowl of cereal. At the time, I was convinced that I was eating enough, but looking back now, I wonder how I ever thought that three spoonfuls of cereal were ever even near sufficient. It was always the same breakfast: a handful of Quaker Oatmeal Squares with just enough milk to barely submerge them. That was all I could really manage. As I sat at the dining table and ate the cereal half-heartedly, my mind was always elsewhere. I wasn't just dreading breakfast, but rather the day ahead. Every possible interaction, every unknown moment that could possibly happen between now and the time I returned home. Breakfast wasn't just a meal I had disliked, but a quiet, uneasy start to another day of trying to navigate everything that came after.

## [Street.html](https://ycheuk.github.io/my_thesis_journey/street.html)

It was just another ordinary school day, one of the days I had chosen to walk to school. I took my usual, more secluded route, hoping to avoid unnecessary interactions. But as I made my way down the quiet street, I unexpectedly crossed paths with my neighbor, another student from my high school, though they were a year above me. I rarely saw them in general, aside from the occasional glimpses when they passed by my house with their group of friends.

That morning, from a distance, she suddenly waved in my direction. Caught off guard but feeling a little bit more energetic than usual, I eagerly waved back, my hand lifting high up and waving in an enthusiastic response. But as I met their eyes, I noticed they looked hesitant and almost the awkward smile that suddenly appeared on their face. It was only until I looked over my shoulder when I noticed their group of friends a short distance behind me, who was also waving. They hadn't been waving at me at all.

The slight excitement and the rare positive energy inside drained from my instantly, replaced by embarrassment and shame. Without another word or glance, I lowered my head and walked past my neighbor as if nothing had happened. To this day, I remember that moment very clearly. I remember exactly which street it happened on, even which part of the sidewalk I was standing on. It was one of those fleeting, insignificant moments for everyone else, but one that somehow is etched into an individual's memories almost permanently, as if a constant reminder to that embarrassing and simple moment.

## [Crossing.html](https://ycheuk.github.io/my_thesis_journey/crossing.html)

This page represents the numerous times I felt overwhelmed simply by the act of crossing a busy street to school. Every morning, I would carefully debate between two routes: one that is a faster, quieter path, which would inevitably force me to cross a very busy road, or one that is the longer route with a crossing guard, ensuring a safer and quicker crossing but requiring me to interact with both the guard and possibly other students. Most of the times, I chose the faster route to avoid social interaction, even though it meant facing the intimidating reality of crossing one particularly chaotic street right in front of my school. Despite the existence of the crosswalk, very few drivers would stop, even when it was obvious I was a student with a backpack on my back. Sometimes, I would stand at the edge of the road for what felt like forever, waiting for just one considerate driver to pause, or for the rare moment when the street was clear enough for me to dash across. This small and probably near insignificant event became a daily source of anxiety.

## [Classroom.html](https://ycheuk.github.io/my_thesis_journey/classroom.html)

Nine different classes a day, five days a week. Though the subjects were all different in different classrooms with somewhat different classmates, it all felt the same. Each class seemed to blur into the next almost in a monotonous rhythm, and I felt like I would move mechanically, doing the minimal amount to get through the day. Because seating was assigned alphabetically based off our surnames, I always ended up sitting in the first or second front rows. I hated it. Sitting in the front made me feel exposed and vulnerable, especially knowing there were many others behind me. Even if no one was really paying attention to me, it was impossible to shake the feeling that there was at least a pair of eyes on me, silently judging. I would become hyperaware of everything I was doing—how I sat, how my expression looked, how I held my pencil, and even how I breathed. I would almost always be one of the first students to show up for class, seeing the same familiar groups of friends walk in together, laughing, exchanging welcoming and exciting greetings, and easily talking to each other. The first few minutes that began before the teacher would start the lesson always felt like the longest part of the hour. When class ended, I was always among the first to leave, never lingering or waiting for anyone while others would stick around to walk to their next class with friends. I slipped out as soon as the teacher dismissed us from class out of the desperate need to breathe again in a more open space.

## [Cafeteria.html](https://ycheuk.github.io/my_thesis_journey/cafeteria.html)

Lunch always happened around noon, and while most students would look forward to it as a break or a chance to eat and chat with their friends, for me, it was the most anxious part of the school day for me. I rarely thought about what food they were serving or how hungry I was. I always felt like I was stuck in a loop, worrying about who I would sit with, or if I'd be sitting with anyone at all. Every day, as the lunch bell got closer, I would always wonder if I should sit near someone and pretend, we're close enough to make conversation, or should I take my lunch tray and disappear to a far corner of the cafeteria, hoping to blend into the background where no one can see me. Or maybe I just avoid it altogether. Some days, I would even linger in the hallways, stalling until lunch time was over. Other times, I would seriously consider hiding away in an empty classroom, or if none were available, locking myself in a bathroom stall, because it felt safer than being seen sitting alone.

## Conclusion

Throughout the making of this project, I uncovered memories I didn't know were still within me, both the joyful and the painful. Revisiting my high school years was especially difficult, remembering all the time I truly felt I would never belong to the world. I found myself scrolling through my high school's Facebook page, trying to piece together fragments that I had forgotten class schedules, familiar hallways, the faces of classmates and teachers I had forgotten, everything. Many of the memories that resurfaced were ones I had tried hard to forget, ones I never thought I would revisit again. And yet, through this process, I've come to learn so much more about myself, not just who I was, but how far I've come since coming to Reed.

There were moments while writing and creating this project where I found myself in tears. But what came as a surprise was that the tears didn't come from my high school memories, but moments when I reflected on my family. Due to the deep language barrier between me and my parents, there's so much about me they'll never fully know, especially when it comes to the struggles I faced during high school. But even if I knew their language well, I'm not sure I would've had the courage to tell them at the time. For most of my teenage years, I believed that the anxiety and loneliness I experienced were personal failures, signs that I was weak. And weakness was something I avoided showing at all costs, especially in front of my family.

Not long ago, I had a rare and unexpected conversation with my father about high school. As we drove past the school, he had pointed out how much the school seemed to have changed, pointing to the brand new building that had been constructed next to the football field since I graduated from there. Then he asked if I ever thought about going back someday to visit my old teachers. Without hesitation or needing a moment to consider his question, I had immediately said no. He didn't ask why, but I saw the surprise on his face, and a little bit of confusion. So, I gave him a short explanation: that I simply did not have a good time there. That the students weren't kind to me. That I was on the receiving end of racism and Chinese stereotypes very often. I simply did not ever want to see those people again.

I didn't expect much of a response, maybe possibly a lecture on how I should just ignore those people and move on with my life. My parents and I have never really talked much about my emotional life, partly because of the language barrier, but also because I've always believed that sharing my weaknesses and problems with someone meant that it was my fault, that I should have just been stronger. But he had said something I didn't expect.

"If you had told me, if I had known, I would've transferred you to another school, even if it meant moving to the next town over."

I was stunned, and I couldn't respond right away. Those words hit me harder than I could have imagined. It was just one sentence, a simple one too. I realized then how wrong I was about keeping quiet, how wrong I was in believing that my weakness was my fault. After that, I continued to wonder what could've changed if I had simply said something to my parents back then. Would I have had a better high school experience? A safer and more welcoming place to learn? A friend to sit with at lunch?

As I look back now, I don't really see weakness anymore, but survival. I see someone who was trying their best in an environment that didn't always welcome them. I was able to survive high school and continue to college. And as a student who once had such intense social anxiety, I can say with confidence today that I've grown an immense amount. I've learned to trust my voice, to ask for support, and to find community. This thesis project isn't just a reflection and message to my past self, but also a message to anyone who feels alone, unseen, or overwhelmed: Keep going. You are not weak for feeling lost and not broken for struggling. Healing and growth take time, and sometimes, all it takes is finding the right people, the right place, and the right moment. I used to think that saying "it gets better" was a lie, a cliché statement to make you feel better. But now, I truly believe in it.

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