Thesis Paper

Brad MacDonald

The Rona and Me

An emoji reflection on my experience with COVID-19.

Abstract

An emoji-focused reflection on my experience with COVID-19 in an era of quarantine and imposed digital connection. Between April 2nd to 25th, 2020, I exhibited symptoms of the coronavirus. Like many people I was in quarantine and my connection to the outside world was defined by the limitations of pixel-based platforms. The Rona and Me is an expression of that period seen through the lens of emoji which are paradoxically, both reductive and deeply expressive.

Introduction

We're living through a transitionary period of emotional dissonance, partisan politics, and increased social reach at the expense of deep empathy and person to person connection. The news we consume, the entertainment and social media are silos that shape the way we feel but that doesn't mean we've lost the capacity to express our feelings. Rather, the ways we express ourselves online, through messaging apps, SMS, and email is simply in a state of transition. One element shaping the nature of our written language in this era of digital dialog is the emoji.

Our language and the digital artifacts memorialized in our daily communication is another potentially another layer in the era of the proposed anthropocene epoch[1], the age in which we can measure significant human impact upon the Earth. Unlike the plastic and strata of manufactured material that is one of the characteristic of the Anthropocene, the emoji layer of

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[1] "(PDF) Anthropocene: A Very Short Introduction - ResearchGate."
https://www.researchgate.net/publication/323425775_Anthropocene_A_Very_Short_Introduction.

data exists primarily in databases, text messages, emails and social media though it is increasing having larger cultural implications and expressions in movies, as an expression of diversity and an example of a universal language that is arguably more successful than previous attempts such as Esperanto.[2]

Perhaps the power of emoji is that their use has evolved over time. Unlike Esperanto, which was designed as a complete system then put into practice, emoji began as a limited visual vocabulary and had space to expand and find a niche. Their utility wasn't intended to be a complete form of expression so their design was tolerant, a flexible tool that could be applied in a variety of ways, and adapt to new devices and communication platforms. They were originally intended as a device to add nuance to written statements. Now you can take classes in writing and understanding emoji, they are being used to confound censorship[3], and they are developing sub-niches of semiotic understanding that are personal, community driven and cultural. An eggplant is no longer an eggplant. A peach is no longer a peach. A smiley face in China might be considered rude but a laughing face indicates support. The meaning of these images and symbols, the underlying semiotics, is changing over time, cultural and sometimes interpreted differently across generations.

One of the criticisms about our use of mobile phones and reliance on social media, texting and email is that we have become less social and the use of emoticons, emoji, and internet slang have corrupted our ability to connect and communicate. In fact, because of the

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[2] "The Decline and Fall of Esperanto - NCBI." https://www.ncbi.nlm.nih.gov/pmc/articles/PMC61387/.
[3] "How Feminists in China Are Using Emoji to Avoid Censorship ...." 30 Mar. 2018, https://www.wired.com/story/china-feminism-emoji-censorship/.

proliferation of mobile phones we are writing more than at any point in time in history.[4]

Everyone's an author. And regardless of whether someone enjoys reading a book, nearly the entire literate global population is reading daily. Our consumption of the written word has never been greater and evolved. Our use of emoji's and internet slang hasn't destroyed our ability to write, rather it has given shape to clearer formal and informal styles[5].

What emoji has given us is an additional layer of interpretation and nuance that can additionally influence the meaning of the written word. Consider the difference between "Thanks", "Thanks 😃", "Thanks 😠", and "Thanks 🖤." The text remains the same but the meaning shifts dramatically.

Not only do emoji offer a shortcut to apply a range of quality - standard, high and highest - to the written word but they also allow for sarcasm, which is challenging to communicate with written language. For example, "You're the best 😡" quickly communicates displeasure and attitude. It's passive aggressive and likely annoying, but effectively conveys the core message. In this way, emoji are a proxy for the non-verbal cues we read in peoples faces, posture, and gestures during face to face communication and allow for layered communication, sarcasm and dry humor.[6]

The Rona and Me is a journal of my experience with COVID-19. The interpretation and classification of emotions within the collected data of my experience reference sentiment

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[4] "Because Internet by Gretchen McCulloch: 9780735210936 ...."
https://www.penguinrandomhouse.com/books/540664/because-internet-by-gretchen-mcculloch/. Accessed 9 May. 2020.
[5] "Because Internet by Gretchen McCulloch: 9780735210936 ...." Accessed March 29, 2020.
https://www.penguinrandomhouse.com/books/540664/because-internet-by-gretchen-mcculloch/.
[6] "(PDF) THE USE OF EMOTICONS AS NONVERBAL ...." 17 Jan. 2019,
https://www.researchgate.net/publication/330441087_THE_USE_OF_EMOTICONS_AS_NONVERBAL_COMMUNICATION_TOOL_IN_INSTANT_MESSAGING_BY_THE_SMARTPHONES.

analysis techniques[7] but also heavily inflected by my own feeling of the events described. Using emoji, numeric values and prose to capture my personal physical and emotional state, capture data, and express deeper reflections on my experience. The use of emoji as the primary semiotic language creates space for interpretation. In many ways this has been a collective trauma, shared by the masses, and I invite viewers to bring their own experience to bear in the interpretation of my experience.

Treatment

The birth of emoji

Emoji were created in 1999 For DOCOMO, Japan's leading mobile carrier at the time, by the artist Shigetaka Kurita. They were originally designed as an iconic system for easily conveying the state of daily activities and conditions like the weather forecast. There were characters to show the weather (sun, clouds, umbrella, snowman), traffic (car, tram, airplane, ship), technology (landline, cell phone, TV, GameBoy), and all the phases of the moon. Altogether, Kurita designed 176, 12x12 pixel emoji that could be selected using the interface for DOCOMO's internet platform, i-mode.

The emoji Kurita designed were intended to add warmth and subtext to messages because content and the subtlety of face to face communication was lost through messaging platforms. The original emoji weren't intended to stand alone, they were to provide nuance to statements.

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[7] "Everything There Is to Know about Sentiment Analysis." Accessed March 29, 2020.
https://monkeylearn.com/sentiment-analysis/.

The emoji landscape shifted in 2007 when a software internationalization team at Google petitioned the [Unicode Consortium](), a nonprofit group that works to maintain text standards across computers, to include emoji as part of the standardized language of computers. Computers fundamentally work with numbers and each character you type is encoded with a numeric value. Unicode focused on standardizing these codes for language, so that the letters you typed in English, Chinese, Arabic, or Hebrew showed up accurately across platforms and across devices. The team at Google - Kat Momoi, Mark Davis, and Markus Scherer—noticed emoji's ascent in Japan and argued that emoji should fall under the same standard. Specifically, emoji should be standardized across computer systems and each emoji would have a numeric value.

In 2009, two Apple engineers, Yasuo Kida and Peter Edberg, submitted an official proposal to suggest 625 new emoji characters into the Unicode Standard. Unicode accepted this proposal in 2010 and emoji became a standardized feature of computer communication. This was the first step towards legitimizing emoji as a new form of language.

Unicode and international standardization

The Unicode standard was developed to support all of the writing systems from around the world. It dates to 1987 and is the result of Joe Becker from Xerox working with Lee Collins and Mark Davis from Apple and their research into the possibilities of developing a universal character set for computers. Unicode has a user facing value, allowing computer users from around the world to read and write in their local language in addition to allowing programmers to develop for broader audiences. In their own words, Unicode supplies "a unique code for every

character, in every language, in every program, on every platform."[8] Programmers and platforms reference these unique codes to display characters in the user-appropriate language. As emoji are now considered by Unicode to be a standard part of internet communication they also have unique identifier codes.

In 1993 124 emoji were introduced by Unicode Version V1.1 and since 2010 there have been 13 emoji-specific releases for use across a range of platforms including web browsers, Apple, Facebook, Google, Windows, Twitter and more. These platforms can use the standardized versions of the emoji or customize their own versions.

Each release adds new emoji so they are a reflection of our times and a record of our collective values. Past updates have included the first emoji bride, dozens of plants and animals, types of food, depictions of all kinds of activities, a more diverse palette of skin tones, and more. Anyone can propose ideas for new emoji and every year Unicode reviews these submissions for consideration in an upcoming update. The criteria[9] Unicode uses in the evaluation of new emoji submissions are: **Compatibility** (will the design work across existing platforms and systems?), **Expected usage level** (how frequently might the design be used?), **Distinctiveness** (is the design recognizable?), and **Completeness** (does the proposed pictograph fill a gap in the existing body of emoji?). The most recent version, 13.0, added 117 new emoji for a total of 3,304.

Why emoji?

As the number of emoji increase so does the opportunity for increasingly complex pictographic communication. Emoji can be strung together to create sentences, appear in puzzles,

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[8] "Overview – Unicode." Accessed March 29, 2020. https://home.unicode.org/basic-info/overview/.
[9] "Submitting Emoji Proposals - Unicode." Accessed March 29, 2020. https://unicode.org/emoji/proposals.html.

and one can even study the language of emoji using the popular language app, Duolingo[10]. As their use proliferates it seems so does their complexity. Emoji were originally intended as a pictographic system for augmenting the written word and were designed, in principle, to be universal visual language. A plane was a plane, a sun was a sun, a face was a face. But over time their use, diversity and meaning has changed as rapidly as the devices we use to share them.

The efficiency of emoji can be illustrated through the evolution of the phrase, "I don't know" as it has adopted various forms, from formal to casual. Written, "I don't know" is efficient and its meaning is clear but when pulled into speech it can easily become "I dunno", whereas "idk" is efficient in writing and ultimately can be expressed visually through emoji.[11]

<div style="background:#eee; padding:1em; text-align:center;">
I don't know > I dunno > dunno > idk > 🤷‍♂️
</div>

As our expectation for the use of emoji becomes more sophisticated so does their design. New releases of emoji target niche activities, add new options for skin color, accommodate a broader understanding of identity and sexuality. The meaning and representation of emoji is becoming progressively more sophisticated and, as such, the expectations that they can communicate more complex ideas, both as standalone pictograms and when used in combination with one another, is increasing. While the expansion of the emoji catalog is fascinating and worthy of study I began my research focusing on the reductive, or collapsed, language of the original set of emoji characters and their ability to communicate more universal emotions. Based

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[10] "Duolingo: Learn Emoji in just 5 minutes a day. For free.." Accessed March 29, 2020. http://xn--h28h.duolingo.com/.
[11] "Because Internet by Gretchen McCulloch: 9780735210936 ...." https://www.penguinrandomhouse.com/books/540664/because-internet-by-gretchen-mcculloch/.

on the Six Basic Emotions research of Paul Ekman and Wallace V. Friesen[12], expanded upon by

Magda Kowalska and Monika Wróbel[13], I began researching user sentiment analysis to express

the following emotions: *Happiness, Sadness, Anger, Disgust, Fear* and *Surprise*. The table below

comes from *Basic Emotions*, by Magda Kowalska and Monika Wróbel.[14]

Basic Emotions, Table 1 Selected lists of basic emotions

	Basic emotions						
	"The Big Six"						
Reference	Happiness (joy, enjoyment, play)	Sadness (grief)	Anger (rage)	Disgust	Fear/ anxiety	Surprise	Other
Plutchnik (1980)	✓	✓	✓	✓	✓	✓	Acceptance, anticipation
Oatley and Johnson-Laird (1987)	✓	✓	✓	✓	✓	✗	–
Ekman and Cordaro (2011)	✓	✓	✓	✓	✓	✓	Contempt
Izard (2011)	✓	✓	✓	✗	✓	✗	Interest
Levenson (2011)	✓	✓	✓	✓	✓	✓	Interest[a], relief[a], love[a]
Panksepp and Watt (2011)	✓	✓	✓	✗	✓	✗	Seeking, lust, care

[a] An emotion included in the list, but according to the author(s), the evidence for its inclusion is insufficient

Using the Six Basic Emotions as a starting point I referenced Emojipedia[15] to track down

the associated emoji. Below are the pairs of emoji and emotion that I began using as a starting

point in my sentiment analysis. Of the selection below was less certain of the emoji for

Disgusted and Fearful but willing to begin the process applying these emoji to my data to see

whether the output was varied enough to be interesting.

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[12] "Basic Emotions - Paul Ekman." https://www.paulekman.com/wp-content/uploads/2013/07/Basic-Emotions.pdf.
[13] "(PDF) Basic Emotions - ResearchGate." 28 Oct. 2017, https://www.researchgate.net/publication/318447136_Basic_Emotions.
[14] "(PDF) Basic Emotions - ResearchGate." 28 Oct. 2017, https://www.researchgate.net/publication/318447136_Basic_Emotions.
[15] "Emojipedia." https://emojipedia.org/.

😊 Happy	🙁 Sad	😡 Angry	🤢Disgusted	😩Fearful	😮Surprised

Concept

My thesis was always going to be about emoji. Originally I planned to do a sentiment analysis using Twitter as a source of data. It was meant to visualize our collective response to difficult times. I wanted to tell a global story. Then I got sick. I exhibited symptoms of the coronavirus from April 2nd to April 25th and everything, all my plans, went out the window.

As it turns out, the difficult times were just getting started and my thesis ended up being about me. My experience during those 3 ½ weeks. It's a personal data project and, as it turns out, also a global story.

I began logging my symptoms and rating them, using emoji, to visualize their severity. The emojis represent a blend of my physical and emotional state. The loss of taste and smell, for example, was binary. It wasn't something I could rate on a numeric scale. I had it then I lost it. So the emoji for taste and smell represent how that symptom made me feel more than severity. Which is the beauty of emoji. Their meanings are influenced by the words they inflect but also change based on their proximity to other emoji. Their limitation is their strength and their ambiguity invites reflection.

Then I began cataloging other events of significance and appreciated the clarity of numbers. In contrast to emoji I found their meaning to be refreshingly clear. There was comfort, and some surprise, in these numbers. Did I really get only 9 phone calls in 24 days? And almost 2,000 emails? These became a commentary on my condition and my life in general.

You can take classes in writing and understanding emoji, they are being used to confound censorship, and they are developing sub-niches of semiotic understanding that are personal, community driven and cultural. An eggplant is no longer an eggplant and we live in an age in which the value of science is under assault and gut reactions are the basis or policy. In that world, emoji are the perfect representation of meaning. They provide a clear point of reaction but the intellectual investment is low. They play to the emotions and their meaning is personal. They're like little sugar-coated street signs that you can choose to follow, ignore or interpret as you please.

I cataloged my life during those 24 days and developed a framework to categorize my symptoms and activities.

Symptoms	Activities
Breathing	Breakfast
Dry cough	Lunch
Fever	Dinner
Diarrhea	Drinks
Exhaustion	Work
Migraines	Teaching
Loss of taste	TV

Loss of smell	Hobbies
	Social interactions

I organized this collected data into columns with emoji representing what I did and how I felt about that activity. As a rating system emoji worked well as indicators of symptom severity but that wasn't particularly interesting. I discovered they had more potential as an interpretive layer. The symptoms were common knowledge so there was no need to define them or illustrate them with representative accuracy and that liberated me to select emoji that either: illustrated the symptom, described how I felt or indicated severity. Sometimes a combination of these qualities.

For my purposes I felt emoji functioned most effectively when describing an interpretable condition. That's not to say they don't provide clarity. They just don't offer absolute authorial control. The clarity is in the mind, and interpretation, of the reader and it may vary from the authors.

ACTIVITIES

| Breakfast | Lunch | Dinner | Drinks | Work | Teaching | TV | Hobbies | Social |
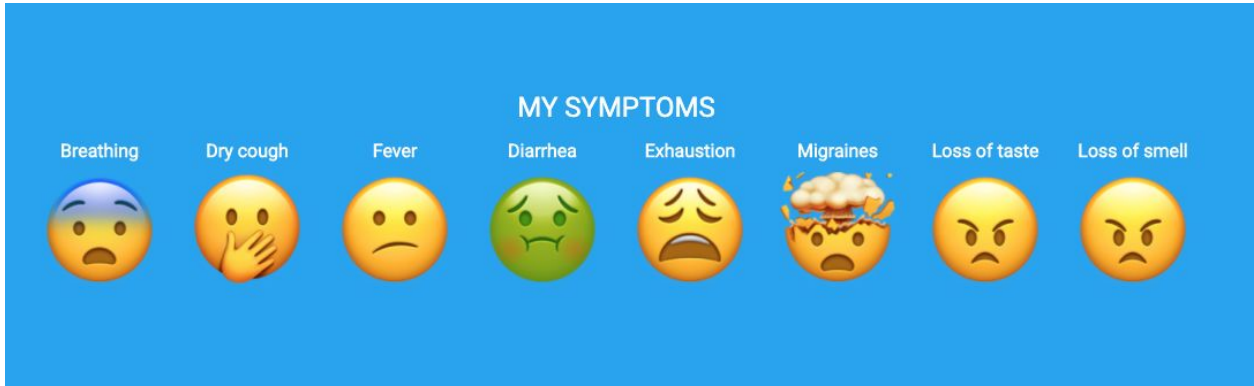
Using this narrative framework for my activities I then logged all of my activities and plotted them, day by day, in a graph that used emoji to represent each activity across the timeline of 24 days. This table was then referenced to discover the dominant activity for each category.

DAILY BREAKDOWN

MOST POPULAR

| Breakfast | Lunch | Dinner | Drink | TV | Hobby | Social device |
| Eggs | Sandwiches | Stir Fry | Tea | Longmire | Guitar Practice | Mobile Phone |
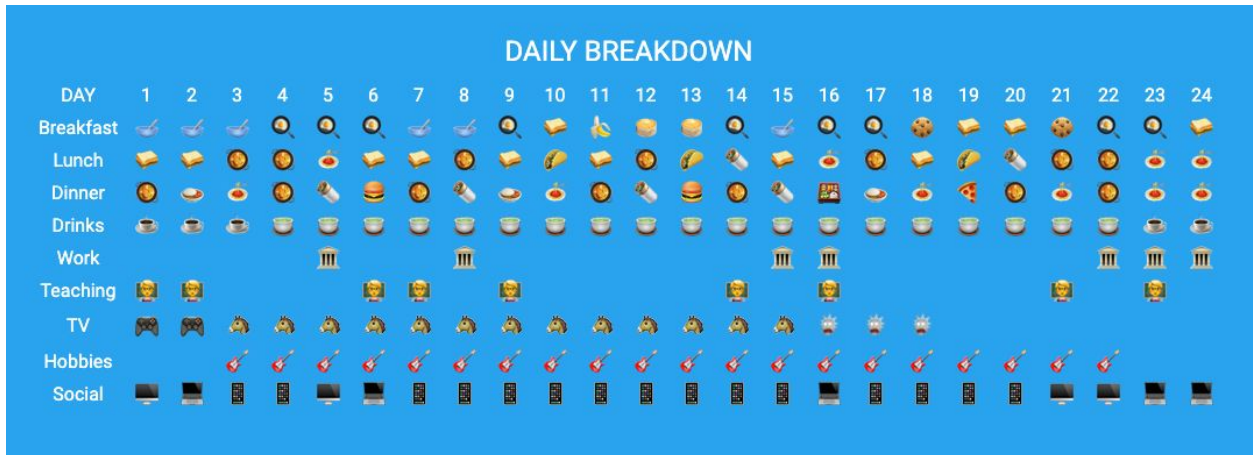
Finally, I want a place to capture how I felt at a more granular level and with more specificity. While emoji were evocative, playful, and adequate for creating interpretable space I had more that I wanted to say beyond images and numbers. During my recovery I received

overwhelming support from my friends, family, and colleagues. In the absence of access to health professionals I turned to my friends and Google for advice. Much of this was helpful and formed the foundation of my recovery regimen but there was also a theme of contradictory beliefs. I use the word *belief* because no one, not even the experts, had a grounded understanding of how to treat the coronavirus. It all came down to one's personal experience and conviction with a blend of imperfect data extracted from the news.

 I was advised to sleep but not to lay down, to exercise and find inspiration in Chris Cuomo's rally to fight the virus but not to exercise because I have an auto-immune condition, to eat but not to spend the energy cooking, to see a doctor but none were available, to take action but above all don't do anything.

For every sensible piece of advice there was a counter argument and it was impossible to take an action that didn't contradict another person's heartfelt advice. I needed to eat, so I cooked. I couldn't exercise but I could do deep breathing. I couldn't read because of my headache but I could focus softly on the TV. My compromise was playing guitar.

In many ways emoji perfectly represent the tension between belief and knowledge that has defined, not just our collective response to the COVID-19 pandemic, but our current political and ideological rifts. Increasingly facts are seen as interpretable and gut reactions define national and international policy. Where do we find our anchor in a world where facts are seen as unreliable, where knowledge is promoted as manipulation and our world is becoming unmoored?

I began this project hoping to represent the collective's emotions and allow individuals to find themselves in that data. I ended up flipping that model and representing an individual perspective and hoping the collective might find themselves in that story.

This kind of project isn't new. Personal data projects have been done before and I've been particularly inspired by Nicholas Feltron's Annual Reports[16]. Those projects are a celebration of detail, of the mundane rendered to an elevated status in gorgeous dashboards. Each year visualized with a unique aesthetic. Feltron is a master at the documentation, visualization and celebration of the ordinary.

While my project also has elements of the mundane I'm not attempting to present them as sleek dashboards or elevating the status of the known. The data is visually simple, presented approachably and without pretense. At first glance the reader may not even know the story being told is one of sickness. This is the language of emoji. Trauma and anxiety share friendly contours and soft gradients with joy and love. In the language of emoji the envelope of expression is narrow, the hard edges of real pain smoothed to be more inviting.

Only when these elements are situated within the context of a pandemic do they begin to take on new meaning. The softness and chirpy color palette isn't ironic. It is simply the language of the system and underscores a possible limitation of the form.

Why is this relevant?

The number of available emoji is expanding with each new Unicode release. There were 176 emoji in the original DOCOMO release in 1999. In 2009, 625 new emoji characters were accepted into the Unicode Standard. As of March 2020, there are 3,304 emojis in the Unicode Standard. Every year new submissions for emoji are being adopted into the Unicode Standard and, as the body of concepts, symbols and identities expressed through emoji are expanding and so does the expectation of diversity and linguistic depth. Interestingly, as the catalog of emoji

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[16] "Feltron." http://feltron.com/. Accessed 9 May. 2020.

increases, the most-used emoji continue to be the classics. In Unicode v12.0 the emoji with the highest frequency of use are 😂, 🖤, 😍, 🤣, 😊, and 🙏.[17] Despite the growing number of available emoji, and potential for more complex communication, the most-used are still the classics. Does that mean we shouldn't push for greater representation of emoji in the Unicode Standard? Of course not. The most used word in the English language is 'the' [18] but that doesn't mean other words have less value. Frequency is not the only measure of value and I would argue the most-used emoji, the laughing face, is loaded with more meaning than the word 'the'.

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What distinguishes *The Rona and Me* from other personal data projects is the relevance at this moment in time. Days, weeks or months from now the world of data visualization may be flooded with visual journals of individuals' experience with COVID-19 and I welcome the diversity of experiences and narratives but for the moment there are very few similarly themed projects to reference - few other perspectives expressed in this manner. It is the current relevance

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[17] "The Most Frequent Emoji – Unicode." 9 Oct. 2019, https://home.unicode.org/the-most-frequent-emoji/.
[18] "Word Frequency Data." https://www.wordfrequency.info/free.asp?s=y.

and the connection of my story to a larger narrative shared by thousands of people around the world that gives it value.

Process

This project was originally conceived as a digital memorial, a timeline of emotional expression, using sentiment analysis on the Twitter feed. The language and emoji use on Twitter would be visualized into a clock that display the average moment to moment emotion of all Twitter users and the average for every day, week, month and year will be locked into position, creating a record of how we - as a global community - have felt every moment of the year. Additional filters would allow users to sort the clock by country, continent and hemisphere to generate new slices of emotional strata across this timeline. Several factors influenced a change in direction:

- The cost and limitations of access to enough Twitter data to capture a truly global perspective. As a response to abuse of the Twitter Developer .API access to high volume data is restricted and comes only at a premium cost that isn't sustainable by an individual doing unfunded work. It's unfortunate that their policy to contain misuse of data can be avoided if the developer is willing to pay, putting abusable data exclusively in the hands of corporations.

- The coronavirus lockdown delayed approval of my Twitter Developer .API token so I couldn't begin experimenting during quarantine.

- I contracted the coronavirus and spent 3.5 weeks recovering in the final push of my Masters degree.

These were significant obstacles and necessitated a shift in direction. Since the spread of COVID-19, changes have been required on a personal, community, state-wide, national and international level. As a responsive population we are learning that ignoring the problem will not make it go away but taking a step back and re-evaluating strategy - while daunting - can often expose potential solutions that were less apparent when we responded reflexively. In my own career I've called this *telescoping* - the process of working on the micro level, in active development, then zooming out or stepping away from the work to gain perspective.

 I needed to align my project plan with the new reality.

Realizing my anxiety about the project I intentionally took a step back to reassess what I was making.

As an unexpectedly positive consequence of being sick with the coronavirus, I had some time to think and reconsider my concept. My goals were to develop a complete project that A) had its roots in the representation of emotions using emoji B) was responsive to, and expressive of, current collective consciousness C) leveraged information and skills that I already possessed to allow me to focus on the narrative D) offered a simpler production pipeline and E) required me to learn new skills that had high return for this, and future, projects.

The original concept was an active clock/calendar that displayed emoji for every minute, hour, day, week, month and year but that required a Twitter Developer .API token. Without that token I needed a new source of data. After reviewing other social media .APIs I decided to mitigate any risk of reliance on external data sources. I would use my own data. The resulting project is more personal, and interesting, than originally conceived. Difficult times often require us to make big, and difficult, decisions.

My bout with the coronavirus required me to test my resolve in regard to my thesis and solidify the concept. I wouldn't want to relive those 24 days of COVID-19 but my thesis is stronger because of it.

Data Collection

Making the shift away from Twitter necessitated a re-think of the data collection. Having made the decision to make The Rona and Me a data diary I began logging all of the details of my life into a spreadsheet. I reviewed my mobile plan for text records and phone calls. I ran filters on all of my email accounts: two universities, the Smithsonian Institute and my personal gmail. I retroactively recreated a timeline of my meals and my activities. I consolidated notes regarding my health and from virtual doctor's appointments. From this I was able to verify that I had enough data to draft a project that would provide some insight into my life during those 24 days.

Tools

I set up an account on Glitch to function as the server and IDE. While it's editing tools aren't as robust as Atom or Sublime it allows for easy previewing of the site in development and doesn't require the developer to run a localhost. I could log into my account from any device and preview the page in development and edits would be pushed automatically.

I used Leafy to turn my Google spreadsheet into a sortable JSON file with customized categories on my Glitch website. Developed by Xin Xin, Leafy is made for educators and organizers. It's intended as a tool for sharing information with an individual's community of practice. Edits to the spreadsheet automatically post these changes to your Leafy site which, in

my case, is hosted on Glitch. Leafy is built upon the [Tabletop.js](#) but that has since been deprecated and replaced with [PapaParse](#). While Leafy was designed to share lists of resources I found it worked perfectly as a responsive diary of my activities.

Following my recovery I had one week to develop a revised proof of concept for my thesis project and this chain of tools had a fast learning curve, you might say it flattened the curve, and allowed me to test my ideas and add new content quickly.

I discovered that the shift to a personal story strengthened my concept and reinforced my existing belief that creative solutions are at the intersection of the known and unknown. My previous concept was dependent on too many unknowns and the loss of time only magnified potential issues with the learning curve. Maybe the original concept was salvageable but getting to a proof-of-concept prototype would have taken longer and reduced the number of iterations I could explore. In short, a streamlined, more familiar workflow allowed me to respond to what I was making and working in short, iterative, bursts.

I had a dialog with my project.

Conclusion

There are quant-focused, data scientists who live and breathe analysis. This fascinated me, but I'm not one of them.

The Rona and Me is the kind of data driven stories that interest me as a designer. It's personal and transparently biased. I'm most interested in using data as a flashlight, to expose the dark corners of our psyche. To surface the emotions that lurk in those spaces and to facilitate

discussion that are otherwise easily avoided. I enjoy work that is personal, confrontational and openly welcoming.

My original concept was centered around the concept of time on a larger scale. I wanted to visualize collective emotions over months and possibly years. I envisioned something that was about social media, the evolution of language, our collective emotions with elements of the conceptual elements of the proposed Anthropocene Epoch and visual cues from the Mayan calendar. I imagined it as a compact, portable, interactive clock that would work equally well at a desktop pattern or Apple Watch app. But even in the best of circumstances plans change. That's the design process. And under the pressure of quarantines and personal crisis these shifts in perspective become more dramatic.

The Rona and Me is still about time but it's limited to a scale of 24 days. And it's still about emotions, primarily mine, and I hope viewers will see themselves in the data, the frustrations, hope and humor I've tried to express. The themes are the same but the direction of the funnel is inverted.

Language, written and spoken, and data share the illusion of clarity. Complex systems like language have evolved over time to allow for the expression of ideas that vary in scale. A well crafted sentence can convey the impression of truth without speaking the truth and it takes a discerning reader to see the difference. The same goes for data. Once data is cleaned, parsed and presented as information there is a temptation, and desire, is to treat that narrative as reality but each of these -the sentence and the data visualization - come pre-loaded with the emotions/needs of the author AND the reader. Belief exists where information and emotions intersect. And, as

emotional beings, neither the author or the reader are in complete command of their interpretation. Their view has been shaped by personal experience and a lifetime of bias.

Perhaps one could present data visualizations void of emotion but who would want to look at that?

I received 9 phone calls in 24 days. That is a fact. But the *meaning* of the fact is open to interpretation. Someone might see that as an example of the deleterious impact of technology on personal communication. Another person might see it as an illustration of the care my friends and family have for me, such that they didn't want to disturb my rest. Neither interpretation is 100% correct or incorrect. The only failure is the reductionist need to explain things simply and from a singular perspective.

This project is defined by it's bias but what makes it acceptable is the honesty of that approach. My experience doesn't negate another experience. The resulting narrative is a mix of information and personal storytelling that doesn't negate the value of the experience. The resulting conversation, the dialog that attempts to tease out truths and values, to achieve empathy, is the real information.

I was drawn to emoji because they are an illustration of this dynamic. Their meanings are understood but vary wildly, depending on context, both personal and cultural. They are visually compressed to icons that represent a stated meaning. They have names like *Grinning Squinting Face, Lying Face,* and *Person: Bald*. And in isolation that is what they represent but their meaning shifts when placed in context and in a larger context of time.

If ideas are the bricks in the wall that divides us then time is the mortar that seals the gaps.

For several weeks, at the beginning of the COVID-19 pandemic, our collective experience forged a sense of unity. We acted reflexively and humanely, supporting one another and exhibiting empathy. Then, as the weeks wore on, the debate about the coronavirus evolved, and competing theories about the source of the virus and who has interest in the virus spread, crowding Facebook feeds and dominating talking-head news cycles. Factions crystallized, each representing different beliefs about the coronavirus. Multiple truths emerged on social media and forged walls of belief that weren't inclusive of one another and created a space where people can't simultaneously hold contradictory beliefs.

A friend once asked me, "Do you know how to kill an idea?" Intrigued, I admitted that I didn't. He replied, "Write it down."

Collectively we're writing more than at any other point in history but is that knowledge bringing us any closer to one another?

"Consider these current rough estimates: Each day, we compose 154 billion emails, more than 500 million tweets on Twitter, and over 1 million blog posts and 1.3 million blog comments on WordPress alone. On Facebook, we write about 16 billion words per day. That's just in the United States: in China, it's 100 million updates each day on Sina Weibo, the country's most popular microblogging tool, and millions more on social networks in other languages worldwide, including Russia's VK. Text messages are terse, but globally they're our most frequent piece of writing: 12 billion per day."[19]

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[19] "Smarter Than You Think by Clive Thompson: 9780143125822 ...."
https://www.penguinrandomhouse.com/books/308723/smarter-than-you-think-by-clive-thompson/.

Calculated, that's about 3.6 trillion words daily. Roughly 36 million books. But is the content substantive? Additive? We may be smarter and have more access to information than ever before, but are we better as humans? More resilient? More unified in our beliefs?

As I see people struggle to defend their constructed, and fragile, ideologies I realize the thing that most fascinates me is not the absolute nature of facts. It's ambiguity. Who we become when the world falls apart around us. What happens to our beliefs when evidence points to the contrary. The innocence and hidden meanings of emoji appeals to me because they often say what they mean, and can be taken at face value, but the real reward is the follow-up.

The Rona and Me isn't a perfect recreation of my experience with COVID-19 and it doesn't need to be. It's value is in the conversations that it generates. It might produce answers but I'll be happier if it produces questions.

Bibliography

Andersen, Margaret. "How Feminists in China Are Using Emoji to Avoid Censorship." Wired. Conde Nast. Accessed May 15, 2020. https://www.wired.com/story/china-feminism-emoji-censorship/.

"Duolingo: Learn Emoji in just 5 minutes a day. For free..". http://xn--h28h.duolingo.com/. Ekman, Paul. "Basic Emotions." Handbook of Cognition and Emotion, 2005, 45–60. https://doi.org/10.1002/0470013494.ch3.

Ellis, Erle C. "Anthropocene: A Very Short Introduction," 2018. https://doi.org/10.1093/actrade/9780198792987.001.0001.

"Emojipedia." https://emojipedia.org/.

"Feltron." http://feltron.com/. Accessed 9 May. 2020.

Marengo, Davide, Fabrizia Giannotta, and Michele Settanni. "Assessing Personality Using Emoji: An Exploratory Study." Personality and Individual Differences 112 (2017): 74–78. https://doi.org/10.1016/j.paid.2017.02.037.

McCulloch, Gretchen. Because Internet: Understanding the New Rules of Language. Thorndike Press, 2020.

O'Donoghue, J.J. "Emoji: The Evolution of Emoticons." The Japan Times. Accessed March 15, 2020. https://www.japantimes.co.jp/life/2016/09/17/digital/emoji-evolution-emoticons

"Overview – Unicode." Accessed March 29, 2020.
https://home.unicode.org/basic-info/overview/.
Pardes, Arielle. "The Complete History of Emoji." Wired. Conde Nast, February 6, 2019. https://www.wired.com/story/guide-emoji/.

Patterson, R, and S M Huff. "The Decline and Fall of Esperanto: Lessons for Standards Committees." Journal of the American Medical Informatics Association : JAMIA. American Medical Informatics Association, 1999. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC61387/.

"Sentiment Analysis." MonkeyLearn. Accessed May 15, 2020.
https://monkeylearn.com/sentiment-analysis/.

"Submitting Emoji Proposals - Unicode." Accessed March 29, 2020.
https://unicode.org/emoji/proposals.html.

"The Most Frequent Emoji." Unicode, October 9, 2019.
https://home.unicode.org/the-most-frequent-emoji/.

"The Rona and Me." Brad MacDonald. http://www.bradmack.com/the-rona-and-me.

Thompson, Clive. Smarter than You Think: How Technology Is Changing Our Minds for the Better. London: William Collins, 2014.

"The Man Who Tried to Eliminate All Words, But Never Met a Smartphone: Note to Self." WNYC Studios, February 28, 2014.
https://www.wnycstudios.org/podcasts/notetoself/articles/charles-bliss-emoji.

Weissman, Benjamin, and Darren Tanner. "A Strong Wink between Verbal and Emoji-Based Irony: How the Brain Processes Ironic emoji during Language Comprehension." Plos One 13, no. 8 (2018). https://doi.org/10.1371/journal.pone.0201727.

"Word Frequency Data." Word frequency: based on 450 million word COCA corpus. Accessed May 15, 2020. https://www.wordfrequency.info/free.asp?s=y.

Appendix

Early Wireframes

Emoji Globe

This globe represents displays a live update using sentiment analysis from Twitter and displaying this in the form of emojis.

Subheader
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Subheader
Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh eu Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh eu Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh eu Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh eu Lorem ipsum dolor sit amet, consectetuer 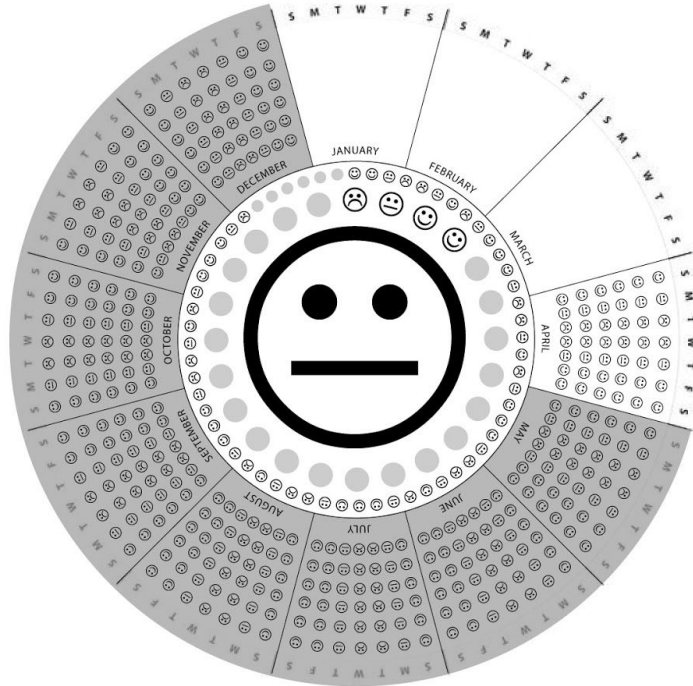adipiscing elit, sed diam nonummy nibh eu Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh eu

GLOBAL   CONTINENTS   COUNTRIES   STATES

2020
00:00:00

THE EMOJI EPOCH
A LIVING MEMORIAL OF OUR EMOTIONS EXPRESSED ON TWITTER

The Emoji Epoch is a clock and calender visualizing a year of emotion expressed on Twitter. Running a sentiment analysis from Twitter posts and comments this data visulization displays emoji that represents the average emotion for every day, week, month of the year.

Starting on April 28, 2020, the clock collects, analyzes and expresses Tweets, every minute and from around the world based on the following reactions and emotions: Happiness, Joy, Sadness, Anger, Love, Surprise, and Support.

As such it is a living record of our collective emotions, a representation of digital strata, through the good times

2020
00:00:00

THE EMOJI EPOCH
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