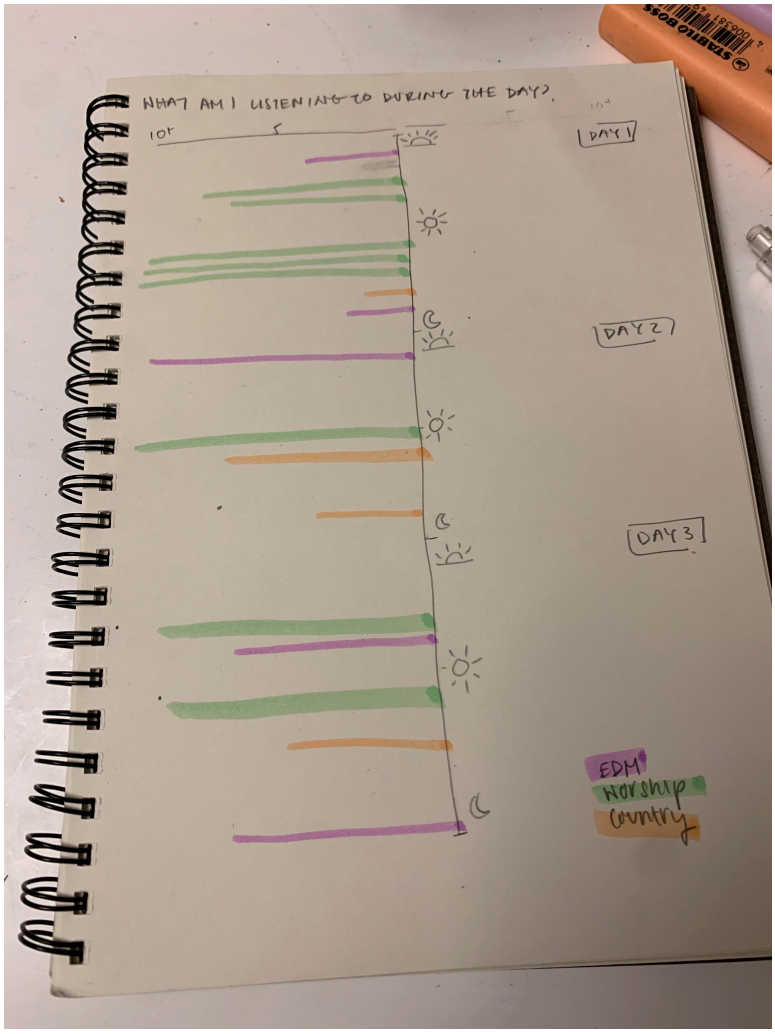
“How does the type of music I listen to and my engagement in class impact my emotions throughout the day?”

<u>Visualization #1</u>: What am I listening to during the day?

<u>Summary:</u> For this first visualization, I wanted to keep track of what I am listening to throughout the day by tracking the frequency and genre of the songs. I tracked the songs I listened to for three days via a widget called AirBuds. This app kept track of the history of songs I listened to each day: it tracked the song and the relative time I started listening to songs in a row. I just reviewed this history at the end of the three days and counted up the number of songs chronologically. Additionally, I tracked the top three genres I listened to - EDM, Worship, and Country - to categorize the songs on the visualization.



<u>Process</u>: I used sketching as my physical medium for this visualization since my idea would have been more complicated to replicate digitally. I made a horizontal bar chart to graph this dataset so that I could simultaneously represent the time of day and the actual number of songs from each genre that I listened to. The X-axis represents the number of songs I listened to and the Y-axis was a relative estimate of time, repeated over three days. I included 3 symbols to represent the time of day: half a sun for the morning, a sun for the afternoon, and a moon for the

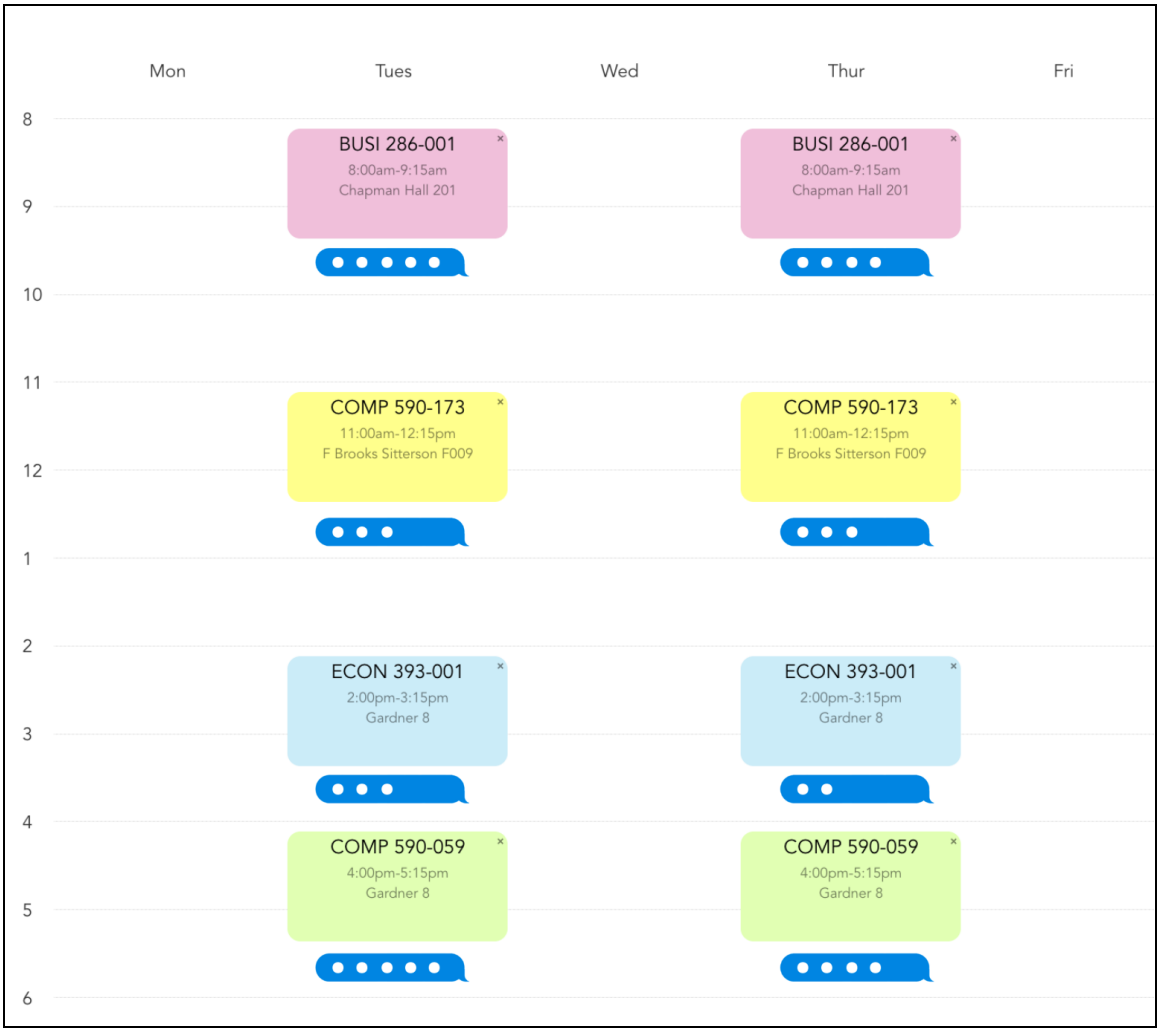
evening. I color-coded the top three genres that I listened to and that made it easy for me to tell what type of genre I listen to during a certain point of the day.

Synthesis: This visualization was really clear to reveal that I listen to a lot of Worship music throughout the day and a lot of EDM in the morning and night time. I can attribute these patterns mainly to the fact that I normally listen to Worship music, but I workout in the morning to EDM and usually need hype music to keep me awake at night while doing assignments. Before collecting quantitative data, I hypothesized that there would be a bigger difference between the frequency of the genres, but it turns out that each of the categories appeared at least once per day. Moreover, it reveals my listening habits: I tend to listen to music on repeat instead of listening to it one song at a time.

Visualization #2: How many times do I check my phone during classes?

Summary: To collect this data, I used two different methods: one quantitative, one qualitative. At the end of the day, I looked at the overall Screen Time for my overall iPhone usage. The limitation was that I couldn't look through specific minutes during class time. The second method was just my overall feeling after I finished the class: did I feel engaged with the lecture content and not remember touching my phone as often? Or did I not engage as well and was more distracted with my phone? I jotted a comment or memorable moment in class down in the notes section of my iPhone right after each class period ended: "funny joke in lecture", "got cold called on", "meh".

For more context, since I only have classes on Tuesdays and Thursdays, I repeated this experiment for 2 weeks (i.e. 4 class periods). During those 4 days, I put my phone on DND as a control factor, because I was trying to isolate when I willingly picked up my phone out of habit.



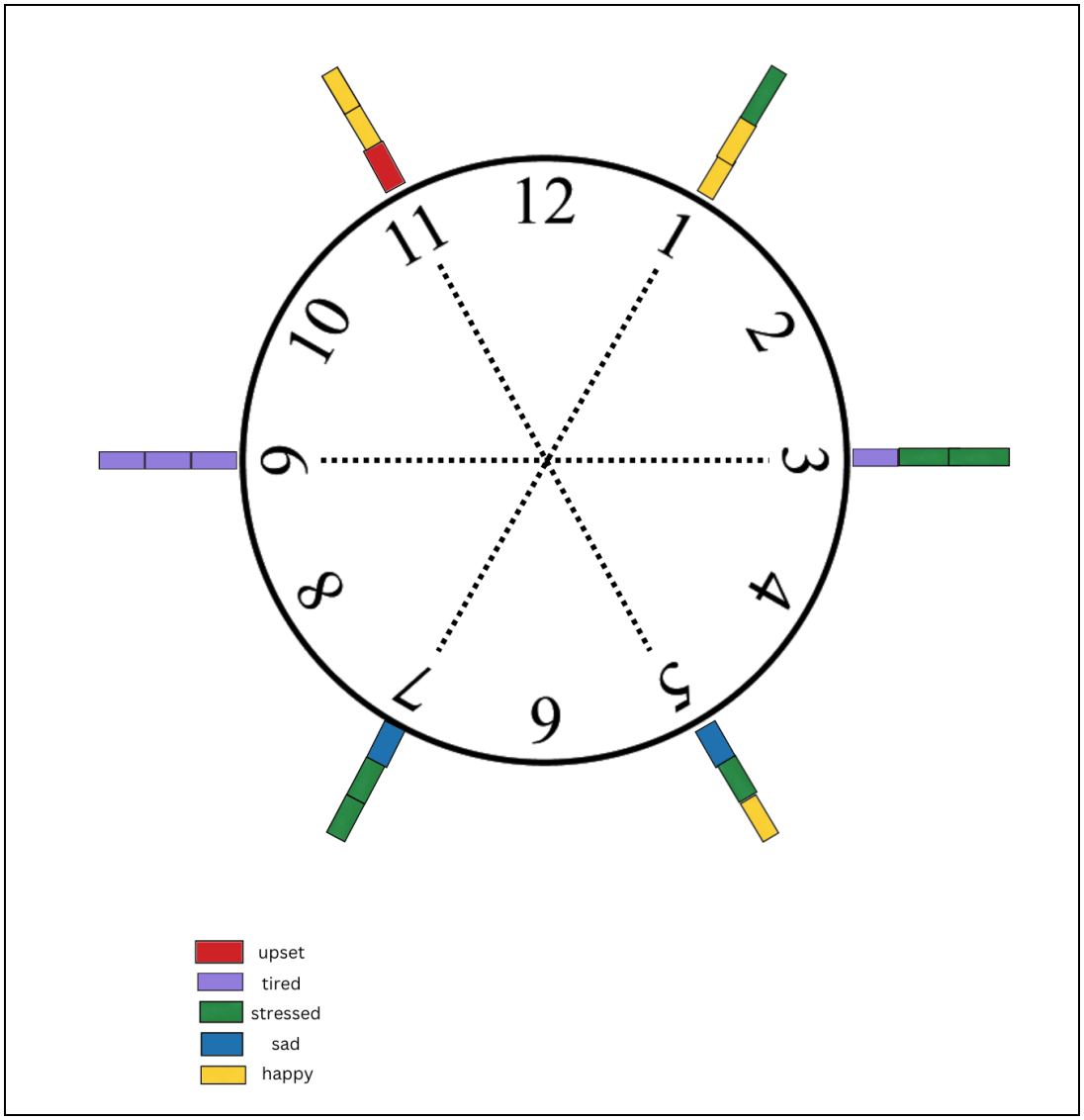
Process: Similar to Visualization #1, before I even started collecting data, I wanted to have an idea of how I would visualize this data after coming up with the question. I knew that it was easy to check phone usage through just looking at my Screen Time analytics, but I wanted to combine the qualitative, emotional feeling into my data set somehow. (I usually know how engaged I am in a class without my phone telling me.) I made my visualization as a digital graphic for this question based on the nature of my data. I marked the frequency of using my phone on a scale of 1 to 5, ascending from least to most phone usage. As mentioned, I collected data for Tuesday twice and for Thursday twice, and looked at the overall frequency for each day to roughly map it to frequency. Surprisingly, there was a slight difference between focusing on Tuesdays' classes versus Thursdays' classes, even though they had the same content.

For the design itself, I used the Coursicle schedule that many students, including myself, use to arrange their classes at the start of the semester. I wanted to have a way of displaying my class schedule, but I think it's interesting to see how in-class engagement truly is the worst at the start of the day and at the end of the day. For fun, I also wanted to use the white circles in iMessage text bubbles to represent how often I was reaching for my phone, which was usually to text

someone. The more “bored” I was in class, the more bubbles there were, and the more I had to say to the person on the receiving end of the text.

Synthesis: To answer the question, I think that I pick up my phone pretty often in-class, even without a pressing notification. Potential reasons I can attribute this are due to force of habit, short attention span, or even anxiety of missing out.
The primary focus of this visualization was trying to combine qualitative data with quantitative data, which contrasts with the other two visualizations that are either solely qualitative or solely quantitative. One challenge I had was trying to collect the qualitative data, but I found that my short 3-word notes about class that day were really helpful when I was making the final visualization. I was able to recall the feeling much better with the personable comments *and* the numeric Screen Time numbers.
Overall, this was a fun visualization to make, and makes me definitely want to do better in terms of engaging with my earlier and later classes.

Visualization #3: What am I feeling throughout the day?
Summary: For this question, I was curious about the frequency of emotions I was feeling in a given day. I usually automatically say I am doing well when asked, but I wanted to see how candid that response really was. I wanted to challenge myself on creating a visualization for primarily qualitative responses. It is hard to incorporate all of my emotions in a given moment, so I chose to collect my data by noting three emotions I was feeling when the clock hit a certain time. From Tuesday to Thursday, I monitored my emotions by setting up a repeating timer in my phone for every other hour from 9AM to 7PM - typical hours of my school-work day - and I would note the emotion right at the hour (i.e. 9AM, 11AM).



Process: Coming into this data collection process, I knew that it would be hard to visualize qualitative data sets since they were usually very broad. I took the overall theme of each of the words I wrote down for each hour of one day and put them into 5 different categories. The emotions of the hour represent 1 block. To distinguish the days, I put the first day's blocks on the innermost layer; second day's blocks on the middle; and third day's blocks on the outermost. I did this to see if there were similarities between emotions at a given hour, and if it was impacted by if I had class that day or not (i.e. I only had class on Tuesdays and Thursdays, so comparing the first/third rows).

For design, I used a digital medium, but not using a premade template. I decided to use a clock for the main piece as it would be easy to tell when I recorded data. I also wanted to show the symmetry between the specific hours that I chose, so that it would be a holistic representation of my emotions throughout the day.

Synthesis: Overall, my data tells me that aside from not being a morning person, each day is different. Even on the days that were supposed to be the same - Tuesdays and Thursdays - my emotions were vastly different on those days. This conclusion seems pretty obvious, but it was a nice realization when life seems so mundane sometimes. Moreover, the data shows that my emotions fluctuate a lot during the day, based on who I am interacting with, what I am working on, and what has come up in my life. When I was planning this question, I hypothesized that I would be answering “tired” and “stressed” most of the time, but every category of emotion was displayed in the three days I was collecting data.

Overall Synthesis:
Theme: The overall theme of my visualizations was to see how my emotions throughout the day were affected by the type of music I am listening to and what I was doing each day (i.e. in class). My original hypothesis was that both of these factors would have a significant correlation with my emotions. I collected data on the two factors first and then the last visualization about emotions was to verify the correlation.
Moreover, I decided to track the music I was listening to first since it was a shorter data collection period and I was using an app to do so. I know that music has a very strong tie to my emotions - it can either intensify them or make them go the opposite direction - so I wanted to use that as an initial indicator of what the final visualization would look like.
In the same way, tracking my phone activity during class would take two weeks to complete and was more actively collecting data on my end. I had to manually keep track of my mood and be consistent with it. Compared to the results of the first visualization, I saw that when I was listening to Worship music in between classes, I generally was able to focus more in class and use my phone less. On the contrary, when I was listening to EDM and country music, I found it harder to pay attention to the classes following.
Lastly, I saw that from the results of the first two visualizations that listening to Worship music during the morning and afternoon corresponded with me feeling happier and being able to pay attention in class more. Furthermore, when I felt more stressed in the evening, I was on my phone more and listened to more upbeat music.

Synthesis: I was challenged with finding fitting and unique media for each of the questions: not every data set fit well with a single line graph or bar chart. However, as I looked through Dear Data and other examples of non-traditional visualizations, I was able to draft ideas of how I could correspond the visualization with a recognizable base. For example, I used a clock for the emotions throughout the day and the text bubbles for screen time in class. It was easy to make my visualization appealing after I figured out how I wanted my data to look. I also found it challenging to represent quantitative data types visually without leaving anything out. I solved this issue by using color to make the patterns very present in the data.
The first visualization was the most effective one for me since it was very colorful and easy to decipher. It was also the first time I had realized that I could use a non-numeric axis to communicate information about my data - this connection opened up a new design pathway for my visualizations later on.
The process for each visualization was very different solely based on the data I was collecting - quantitative, quantitative, or both. For quantitative datasets like Visualization #1, when I was

counting up the number of songs, I wanted to retain the actual number (i.e. not put it into a range) and made a numeric axis to keep track of that. For qualitative datasets like Visualization #3, I had to do the opposite and group the data together first before reflecting it on the design. For datasets that included both quantitative and qualitative data like Visualization #2, I challenged myself by using the qualitative data to enhance the quantitative data (i.e. seeing that I used my phone less in class + a note that there was a guest speaker = 2 on the frequency scale of using my phone).

Portfolio link: https://github.com/angelinasu57/comp590173-mod1