Vidyuth Jagadeesan

Comp 590-173

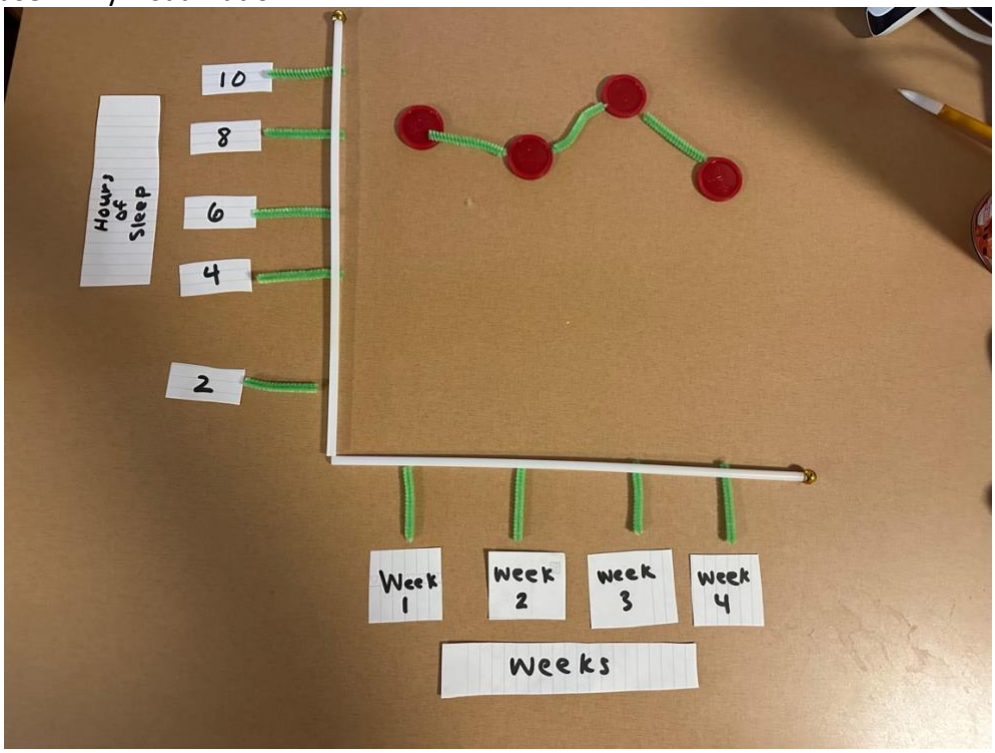
9/22/23

Professor Szafir

Module 1: Dear Data Redux

Visualization #1

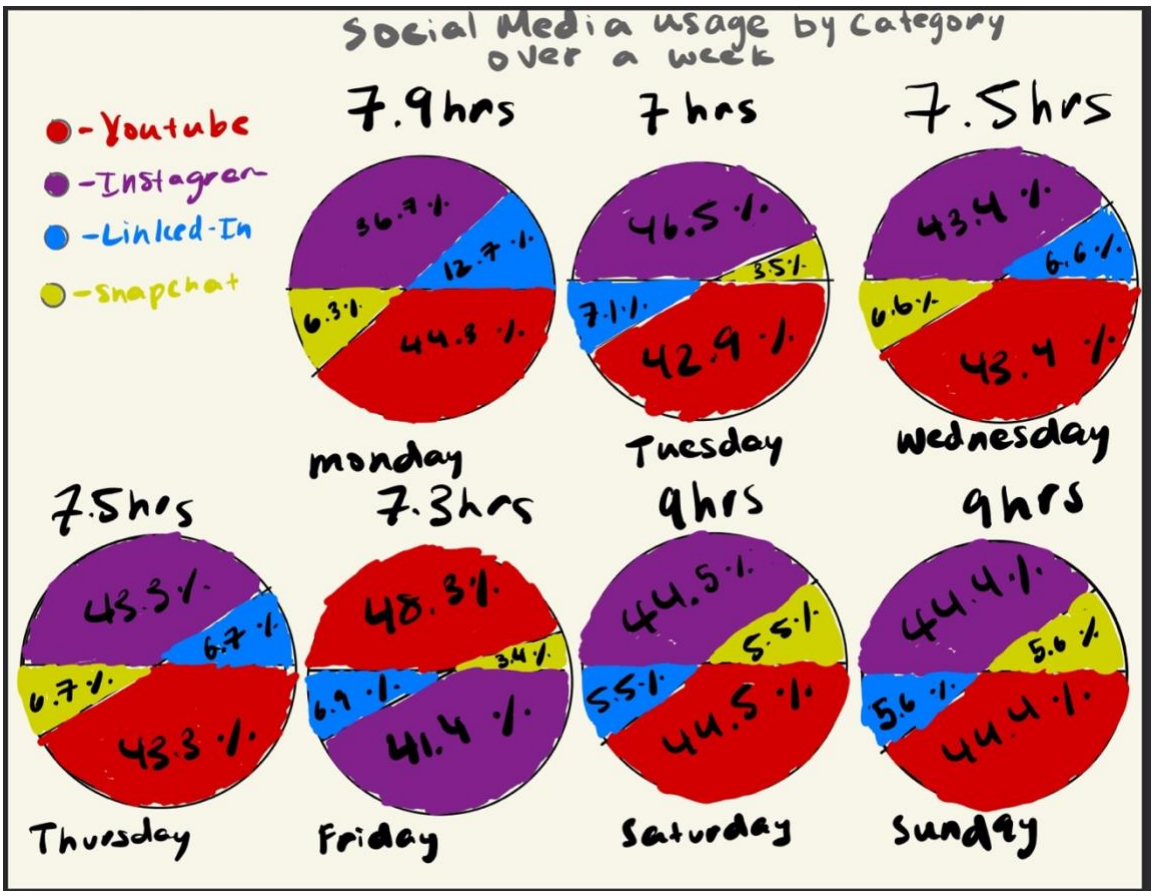
Getting proper sleep is one of the most important things in having a productive day and being in good health. It is widely known that sleeping 8 hours a day is optimal. As a college student, I wanted to make sure that I was somewhere around this number. The question I wanted to answer was: “How does my weekly sleep pattern look on average over a month?” I wanted to discover if there were any trends and overall uncover how my hour of sleep looks collectively over a period of time. I wanted to study trends over about one month of data, so I used the sleep data from the Sleep Tracking App on my iPhone. I retrieved the sleep data for August to use in my visualization.



I decided to create a variation of a line graph because it is easy to see any patterns/trends we can see in the sleep data over the period. I wanted to use the concept of physicalization to make a hands-on visualization to study my weekly sleeping patterns over 8 weeks. For this reason, I used pipe cleaners to represent the x-axis y-axis, and the line of best fit as well. To make it more fun I decided to use checker pieces to represent each point. This visualization was both informative and fun. After creating the visualization, the data tells me that my sleep pattern does fluctuate on a weekly sleep basis and no distinct trends can be seen. This variety in sleep pattern/hours of sleep can be influenced by various factors including how much work I have for each week, how long I spend at the gym, and other weekly habits I may have. Since only 2 out of the 4 weeks seem to average around 8 hours of sleep each day, it would be beneficial for me to make some changes to my habits so I can hit around 8 hours of sleep on average for that week.

Visualization #2

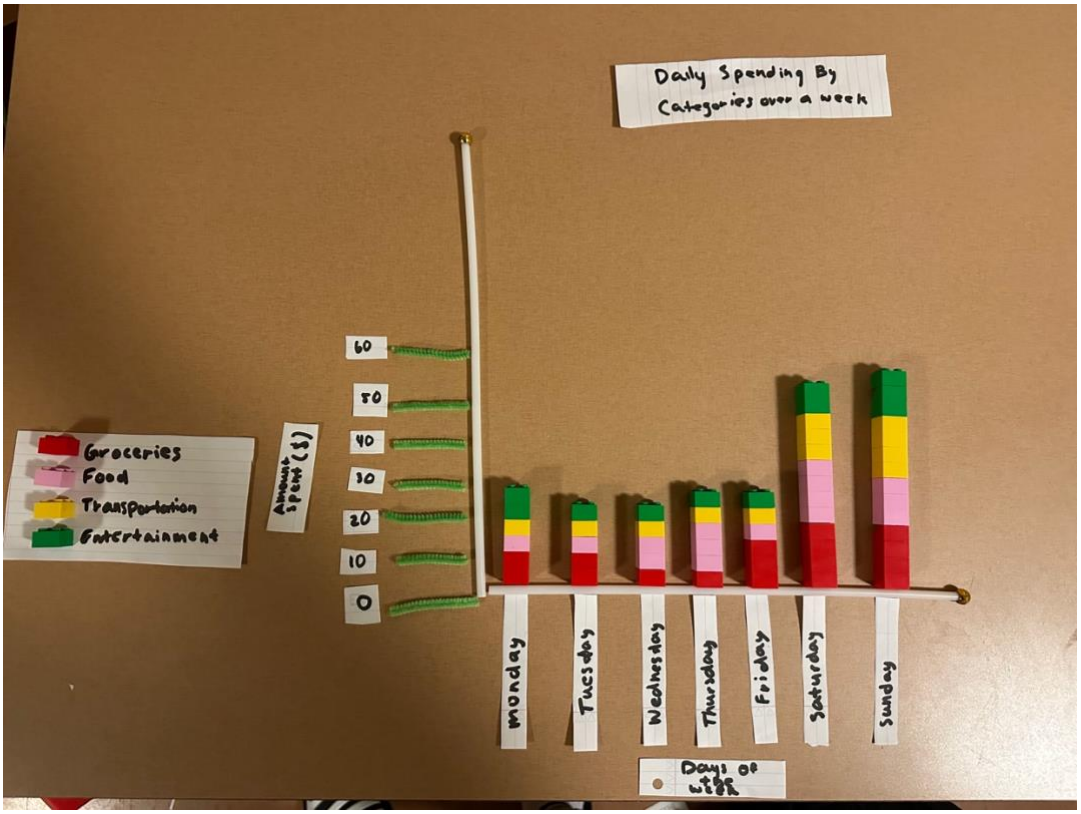
In today's world, social media plays a large role in many people's lives. I wanted to learn more about my social media habits and which apps I spend more time on than others. I wanted to answer the question: "Is there one social media or streaming application I significantly spent much more time on each day than others over a week?" Along with this I also want to compare my daily time spent on social media. Studying this data will allow me to make any changes to my social media habits based on the results of the data. To monitor my screen time periodically I used Apple's screen time app. I used social media screen time data from September 11th to 18th for this particular exercise.



I decided to use a pie chart for each day for this visualization because it can show the daily percentage breakdown of various social media platforms and allow you to compare the social media usage across the various apps for the week as a totality. I also provide the time amount I spend on social media for each day in the visualization. This will allow me to compare social media times overall. My visualization allows us to compare social media usage during one day on different platforms as well as over a week. After collecting this data and creating this visualization, it seems that the majority of my social media usage comprises YouTube and Instagram. From the chart, we can see that the other two categories Linked-In and Snapchat only take up less than 20% of the total time every day of the week. Along with the subdivided categories, the visualization includes each day's total social media usage in hours. Over the week, we can see our social media usage in hours goes up during the weekend since I have more free time and no classes. The key takeaway from the visualization is that my social media usage hovers around 7.5 hours, but it spikes to about 9 hours over the weekend. I should take more steps to reduce my social media screen time over the weekend.

Visualization #3

As a responsible college student, I also want to make sure that my overall expenses are under check. I wanted to answer the question: “Are there any distinct patterns or trends that can be seen in my daily expenses overall and in the subdivided categories over a week? I am trying to limit my spending/expenditures. I want to know more information about the breakdown of many categories like food, entertainment, transportation, and groceries. I would like to analyze my spending/expenses over seven days. With this data, I can make changes to my spending habits if I find I spend too much in one category or more than expected overall. Learning more about my weekly spending and what it encompasses can allow me to make more responsible financial decisions. I manually decided to track my expenses data using a spreadsheet where I tracked not only daily total expenditures, but I subdivided them into categories of groceries, food, transportation, and entertainment. I then use this data to create the visualization.



I decided to use a stacked bar chart for each day’s expenditure because it allows me to represent each subdivided category and how much expenses went into them. This stack bar chart would not only allow me to visually compare the differences between each division over the week but would also allow me to compare each day's expenditure to others as a totality. I used different colored logos for the various categories and stacked them to represent each daily expense bar. This stacked bar chart shows how the daily expenses are divided among different categories and how they fluctuate over a week. The x-axis is the days of the week analyzed, and the y-axis is the expenses in dollars. Like the pie chart showing the various social media usage, my daily total spending tends to start increasing as we enter the weekend. I tend to keep

weekends to not only go out to eat at restaurants but also designate this time to go buy groceries. This makes sense as to why my expenses during these two days skyrocketed. I also tend to do activities and go out for entertainment during the weekend as well. This visualization shows that there are no distinct trends among the various categories and the expenses tend to increase on average as we get closer to the weekend. I did notice that as we got closer to the weekend outside food, and grocery expenses went up on average as my grocery supply went down and I became too lazy to make food, so I indulged in eating out more.

Synthesis

After creating three separate visualizations using different mediums, I feel like my visualizations were effective in answering all my target questions. When making visualization I usually tend to use automated chart tools such as Excel, Tableau, and Altair. I wasn't sure how effective creating charts without using these tools would be. I knew that making charts/visualizations from scratch would allow you to get a deeper understanding of the data. I felt like using physicalization and sketching methods allowed me to experiment with different types of visualization methods. These allowed for more freedom. Though I felt like all media made the patterns easy to follow, I felt like the sketching method was easy to read because I was able to draw it digitally. Hands-on visualizations like #1 and #3 give you more creativity when creating them, but I feel like are prone to look less professional and might have more human error. I would say for that reason visualizations #1 and #3 are more engaging while visualization #2 is slightly more effective. Overall, I learned a lot using these different mediums to make three visualizations that all answered the respective target questions.

GitHub Repo Public Portfolio Link: https://github.com/vidyuthj/Comp-590-173-Module-1-Data-Redux/