

# ADHD Focus Helper App

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# Goals and Context

**Design Question:** How do individuals with ADHD manage their daily tasks and routines in their natural environment, and what challenges do they face in maintaining focus and organization?

## **Research Questions:**

1. Who are the primary users of the ADHD Focus Helper app?
2. What specific challenges do users with ADHD face when managing daily tasks and routines?
3. Where do users typically use productivity tools or task management apps (at home, school, office, outdoors)?
4. What times of the day or situations do users feel most distracted or overwhelmed by their ADHD symptoms during the day (morning routines, work meetings, studying)?
5. Why do users struggle to maintain focus and organization despite using task management tools?
6. How do users with ADHD prefer to receive reminders or notifications (text, email) to help them stay focused?
7. What features or functionalities do users want in an ADHD-specific task management app to make it more effective for them?
8. What kinds of hobbies or activities keep the users most engaged?
9. What role does sensory input play in improving attention and task persistence in individuals with ADHD?
10. Do the users multitask or finish one task at a time when completing assignments?
11. Do the users use ADHD medication?

This study aims to explore and evaluate the effectiveness of current notifications, reminder systems, and task management strategies for individuals with ADHD. Given the executive functioning challenges associated with ADHD—such as difficulties in organization, time management, and task persistence—it aims to identify the most effective digital tools and techniques. According to psychologist Abigail Levrini, it is explained in her book that navigation tasks with ADHD can be simplified into three steps “set long term goals... develop a toolbox to keep track of helpful strategies... create and implement weekly objectives” (Levrini, 2023).

Additionally, the National Library of Medicine conducted a study examining adults with ADHD. This highlighted how individuals coped with their symptoms prior to treatment and final diagnosis. The study aimed to uncover the skills and compensation strategies developed by these individuals and their perceptions of these methods. Throughout, “Patients reported frequent use of diverse compensatory strategies with varying degrees of effectiveness. These were classified into five categories (organizational, motoric, attentional, social, psychopharmacological). In certain circumstances, ADHD symptoms were even perceived as useful” (Carlos et al., 2021). Understanding these self-devised strategies offers valuable insights for clinicians to tailor interventions that build upon existing coping mechanisms. Part of this study will evaluate whether or not measures like these are effective and or being utilized. If not, then what exactly is it and how are they beneficial?

To achieve this, our research involves both Primary and Secondary methods. Primary consists of observations of individuals with ADHD (or obtaining diagnoses), conducted in real-world environments such as homes, libraries, and study spaces. We will document how participants interact with their surroundings, manage distractions, and utilize organizational

tools. Secondary research will involve an in-depth review of existing literature, academic studies, and online discussions to contextualize ADHD challenges and solutions.

The findings from this study will inform the design and development of an ADHD-specific focus and productivity application. This app aims to provide tailored support through personalized reminders, effective notification strategies, and ADHD-friendly task management features. By understanding how users engage with productivity tools and the obstacles they face, we can create inclusive and effective digital assistants that enhance organization, reduce distractions, and ultimately improve the quality of studying for individuals with ADHD.

# Methods

Our approach to the fieldwork was to divide the work among the four of us by having Jasmine and Terry do a contextual inquiry to users whom they observed in person. Victor and Brandon were in charge of doing deep hangouts by observing in online ADHD groups on Reddit and YouTube. Jasmine and Terry will do Contextual Inquiry observation by asking their users to walk through the steps they take to stay organized and focused. They will quietly observe how a user interacts with their environment and note the distractions (phone notifications, noise) and how they respond to them. They will also watch how long a user spends on each task and whether they shift focus between tasks quickly. Jasmine and Terry will observe two users each for at least 30 minutes. Brandon and Victor will do Deep Hangout by joining online communities such as Reddit, Discord, or Facebook groups for people with ADHD to learn about their struggles and the strategies they use to cope with their symptoms. We plan to conduct the observations at places on campus, online, or back at home using either our notebooks, Google Docs, or even our phones to record the conversation within thirty minutes or more.

We focused on where people usually do their work, how long they are on their phones scrolling through social media, and what keeps them focused. Jasmine observed two users: Joshua and Mio. Joshua is Jasmine's 23-year-old brother who attends school at San Jose State and lives at home. He is a Communication Studies major. Jasmine observed him on her weekend visit at home. Mio is an 18-year-old freshman at CSUMB studying Marine Science. Jasmine observed them at the Dining Commons. Terry observed two users, one who is Salvador, her younger brother, and his friend Cesar who are both high school students. All users have been officially diagnosed with ADHD, except for Cesar who is in the process of obtaining a diagnosis. Terry observed Salvador at home and Cesar at a cafe. Victor and Brandon observed their users on the Reddit ADHD groups. Victor quoted from a user named "SpareAd2794," "SirNobOff," and "seasuighim." Victor did a deep hangout on Reddit, users with ADHD shared various methods to enhance their concentration. Anonymously shared under usernames, these strategies were collected from active use cases, excluding factors such as sleep and rest. According to user "SpareAd2794" on the ADHD subreddit, common tactics include medication, getting dressed up, allowing poor performance, having music or videos run in the background. From user experiences, aside from medication, people often use physical strategies to boost focus. For instance, "SirNobOff" mentioned that getting dressed, even minimally, significantly increased productivity, whereas lounging in pajamas led to inactivity. User "seasuighim" emphasized the importance of a quiet work environment. Although background sounds, such as a soundscape of summer, initially intrigued them, it was ultimately the absence of noise that fostered focus. Alternatively, changing the setting, like working in a library or cafe, proved effective for academic tasks.

Despite a lack of logistical explanations for these methods, several common reasons for their effectiveness emerged:

- **Getting Dressed Up:** Enhances self-esteem and confidence, referred to as "enclothed cognition," influencing psychological state and performance.
- **Working in Silence:** Reduces cognitive load, allowing the brain to concentrate on tasks without distractions, enhancing productivity and memory.
- **Change in Setting:** Provides new stimuli, refreshing the mind and preventing monotony, which can reignite creativity.
- **Music/Videos in Background:** Elevates mood, reduces stress, and induces positive emotions, leading to increased productivity. For some, background videos offer a sense of company, reducing feelings of isolation.
- **Allowing Poor Performance:** Permits making mistakes, which are valuable learning experiences for skill development and innovation.

The feedback from Reddit highlighted personalized strategies that effectively aid concentration for individuals with ADHD.

Brandon quoted from a user “DunnoMyself.” Jasmine observed her older brother, Joshua, on how he organizes his classes on Google Calendar, how he pays attention when he is studying or working on assignments, and the habits that he does daily. Brandon did a deep hangout and observed users on an ADHD subreddit regarding ways in which users would go through their day-to-day lives with their condition. In doing so, he was able to gain a direct understanding of ADHD and how others with it manage it. He found that for apps like YouTube and TikTok, the rise of short-form content and the tendency to engage in multiple tasks simultaneously for constant stimulation are notable trends that have created a trajectory toward how many view the entertainment they engage with. He noticed that users on Reddit have pointed this out, particularly on the ADHD subreddit. Many are looking for remedies for this addictive form of entertainment. According to a user going by “DunnoMyself” stated in a thread: “I’ve wasted nights with shorts (YouTube videos less than 30 seconds long) before and it was terrible. So now I allow myself nothing. I don’t have a TikTok/Instagram/Snapchat and other social media of any kind. I use a YouTube APK with shorts disabled.” He found that one method discussed in a separate thread regarding battling ADHD methods was “Body Doubling.” This method has two different meanings, one of them is: working alongside another person, physically or virtually, enhances focus and accountability. The second definition is seeing your future self and holding yourself today accountable. In a way, you aren’t who you are today, you’re always your future self and can reinvent yourself and begin going down a new path. Many on the subreddit talked about implementing prompts or mini-tasks throughout their day to overcome a feeling of inertia and start bigger tasks. Jasmine also observed Mio on how they organized their assignments by seeing them write down things in their notebook, or write in their iPads, or draw, and check off assignments they finished on their to-do list. The reason was to observe people who are diagnosed with ADHD to see how they organize their work and how they keep track of classes to have a better idea of how to design the app for them.

Terry observed their brother Salvador and his friend Caesar on how they maintain their focus and organization methods during their study/homework time. Salvador uses the sheet auto-generated by their teacher and Caesar just tries to remember what he needs to do. In Terry's observations, the first person was Salvador Hernandez, a senior high school student enrolled in independent studies due to his ADHD Combined Type. He initially attended regular school but found it difficult to focus in a classroom environment. The inability to use his usual strategies, like earbuds, and the distractions from friends led him to transition to independent studies, which has significantly improved his grades. He begins his study sessions by logging into his laptop and checking Google Drive for his weekly plan. He meets with his advisor for about an hour and a half to track his progress. He starts with easier online assignments on APEX, setting up his work in multiple tabs. After a small snack break, he spends time on Instagram reels and Snapchat messages. To help with studying, he plays music on Spotify or watches YouTube videos, bouncing between entertainment and work. His workflow includes using text-to-speech software for reading assignments and voice-to-text tools to jot down thoughts, later refining them with ChatGPT. After a lunch break, he plays video games before returning to catch up on math modules and other coursework. Once he completes his work, he plays video games with friends for the rest of the day. Then the next person Terry observed, Caesar, is a high school student attending in-person classes and is in the process of obtaining an ADHD diagnosis. They manage their focus using tea, music, and fidget toys. Due to their school and sports schedule, only a partial observation was conducted. After school, they take a break before deciding whether to extend it or start homework immediately. Their study process includes checking Google Drive and their written agenda, playing a music playlist, and setting their phone aside to minimize distractions. Depending on the workload, they either take multiple short breaks or one long break. They prefer to snack while studying. Once their work is completed, they unwind by playing video games.

In order to analyze, Jasmine recorded Joshua and Mio's responses using Glean software to take better notes and listen to the recorded conversation to see if the transcript was accurate enough to the conversation. This helped her analyze and record the data that she gathered for the observation. Jasmine then highlighted the key points that she read from her observations that will highlight the results of the main things to focus on for applications for the ADHD app. Terry recorded Salvador and Caesar's responses by typing on a doc and using video chat on Discord. One was done in person and the other was through Discord. Terry typed what they saw and asked Caesar to think their steps out loud. They just let the two do their own thing organically as if they were hanging out with their friends to be able to get a more accurate response.

# Results

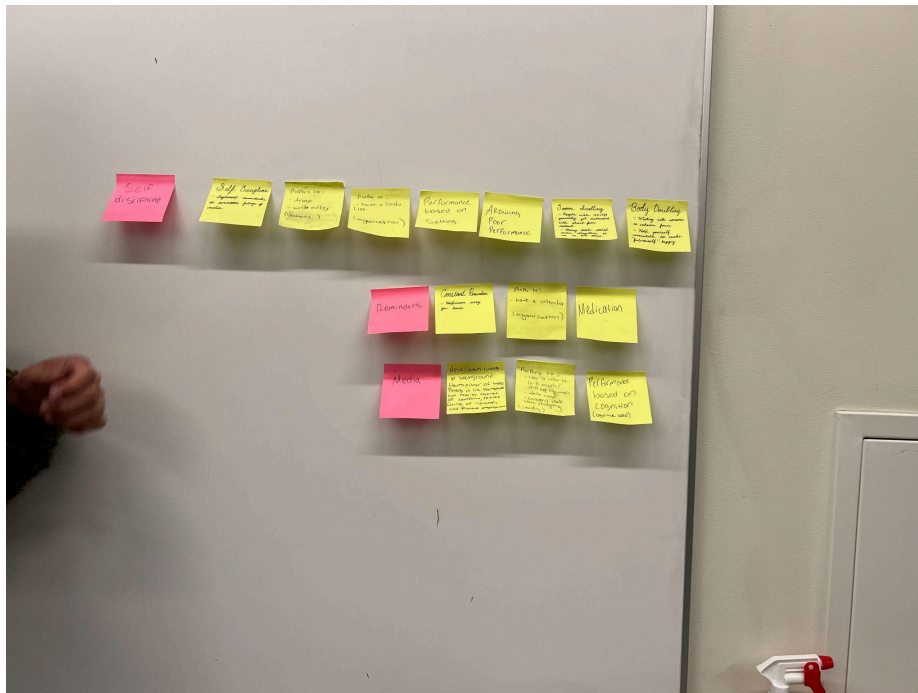
From the observations, we found that many participants were easily distracted by various factors, including friends, video games, and social media. We also noticed that individuals had different methods for organizing their assignments to keep track of their classes and completed work. One key finding from our observations was the importance of self-discipline in managing tasks effectively. Another significant insight was the need for a notification feature in the app to assist individuals with ADHD by reminding them to take their medication and complete assignments. Additionally, we observed that most participants preferred listening to music while working or studying. So we decided to focus on three key findings which are self-discipline, notifications, and background music.

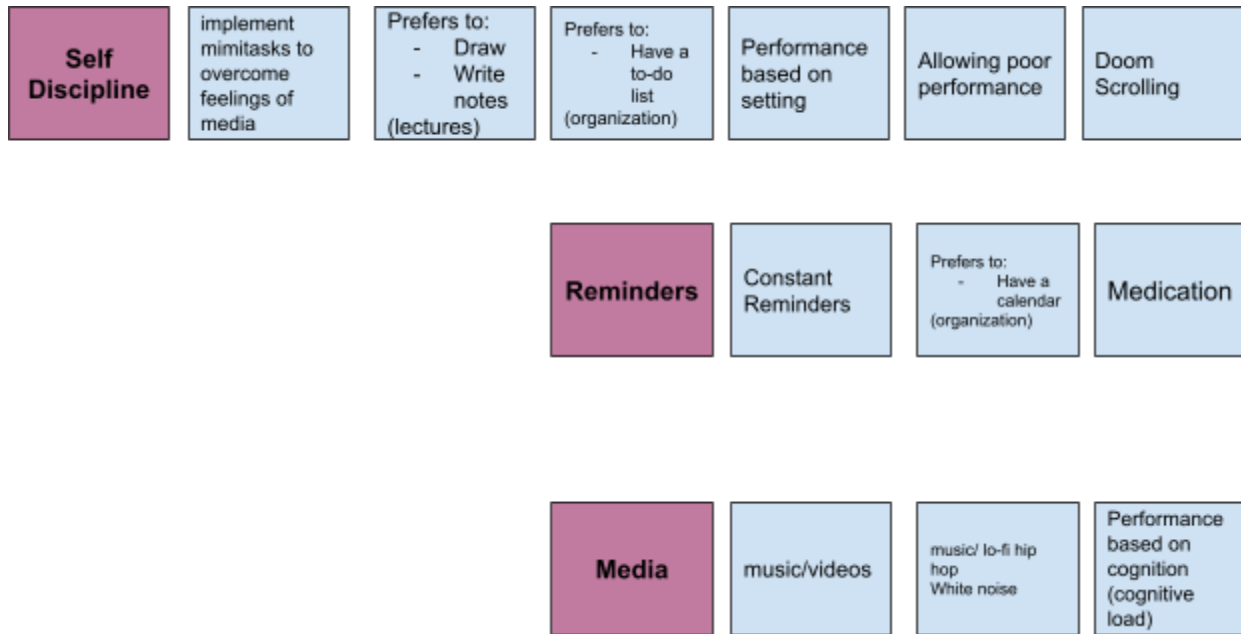
These are the key findings that we want to focus on:

1. **A self-discipline feature:** The primary focus of our research was how participants were often distracted by external factors such as social media, video games, and interactions with friends. These distractions made it difficult for them to focus on the task at hand, leading to procrastination and poor time management. We identified the need for a feature that would help users limit these distractions and build better self-discipline. Specifically, we recommend incorporating a feature that tracks the amount of time users spend on social media or playing video games during study sessions. This feature will help raise awareness of how much time is spent on distractions and encourage users to manage their time more effectively. The tracking could include notifications or reports at the end of each day or week to provide a clearer picture of screen time usage. This would give users tangible feedback on their habits and serve as a reminder to stay focused on important tasks.
2. **Notifications:** Based on our observations, we noticed that many participants, particularly those with ADHD, struggled with staying on top of their daily tasks and responsibilities. They frequently forgot assignments, appointments, or medication schedules, which led to feelings of frustration and stress. To address this, we prioritized the addition of a notification feature that would serve as a reminder for users to stay on top of their tasks. This system would alert users about their screen time usage and prompt them about daily tasks that have yet to be completed. These notifications could be set at customizable intervals, ensuring they reach users at times when they need them most. For example, if a user hasn't completed a task by a specific time, the app could send a reminder to encourage them to focus. Additionally, reminders for medication or other important activities would also be integrated, giving users an organized, streamlined way to stay on top of their responsibilities.
3. **Background music:** Observed that many participants preferred listening to music while working or studying. For some, it helped them concentrate and improve their productivity, while for others, it served as a method to drown out background noise.

Given this finding, we decided to integrate a background music feature into the app, offering users a selection of calming or productivity-enhancing music that they can listen to while working. This feature would provide various music genres or soundscapes, such as white noise or instrumental tracks, which are known to help improve focus. By allowing users to choose the music that works best for them, we aim to create a personalized environment that supports concentration and helps reduce distractions.

We decided to prioritize self-discipline features since most of the observations we conducted were mostly focused on organization, staying on task with work, procrastinating from doing work, and getting distracted with video games, friends, or other things. We decided to have the app have a feature that keeps track of the hours that the user is on social media or video games. The second priority of the app is the notifications to showcase their screen time usage or daily tasks that they have yet to complete. The last priority is background music since it is an additional feature of the app for the users to listen to music while they are working.





Based on our observations, we prioritized self-discipline features in the app, as most findings centered around organization, task management, procrastination, and distractions from video games, friends, or other external factors. To address this, the app will include a feature that tracks the number of hours users spend on social media or video games. The second priority is a notification system that alerts users about their screen time usage and incomplete daily tasks. Lastly, the app will incorporate a background music feature, providing users with an optional tool to listen to music while working.

## Recommendations

After conducting our observations, we identified three key areas to focus on for the ADHD support app: The first key area is self-discipline: Which involves implementing mini tasks to overcome feelings of inertia, drawing, writing notes, having organized to-do lists, changing the setting for optimal performance, occasionally allow poor performance, delete social media altogether, use an APK online to restrict certain apps, holding your “present self” accountable, and having a friend in person or Zoom to offer aid. Our second key area is notifications: Constant reminders every few hours to stay on track, having a calendar for organization, and prescribed medication from medical professionals. The last recommendation is media in general: Music/videos running in the background can provide a sense of company, listening to chill/hip hop music, white noise, ambient noises while studying, and performance based on cognition (or cognitive load). To address the challenge of distractions from social media, video games, and friends, we recommend implementing a self-discipline tracking feature that monitors the number of hours users spend on these activities. This feature will provide users with daily and weekly reports, helping them become more aware of their screen time and encouraging better self-regulation. Additionally, since many participants needed assistance in managing their time and staying on top of assignments or medication schedules, we propose a notification and task reminder system that alerts users about upcoming assignments, daily tasks, and medication reminders. These notifications can be customized based on user preferences, ensuring they are received at the most effective times. Lastly, as our observations revealed that many users preferred listening to music while working or studying, we recommend incorporating a background music feature that allows users to play calming or productivity-enhancing music within the app. In an article conducted by NeuroLaunch it is claimed that “For individuals with ADHD, routines can be a powerful tool for managing symptoms, improving productivity, and enhancing overall quality of life”(NeuroLaunch.com, 2024). Consistent routines help improve time management skills. By allocating specific times for tasks and activities, individuals with ADHD can better plan their day and prioritize tasks, reducing the likelihood of procrastination and distractions. Additionally, having a routine can create a stable environment that minimizes distractions. This can help individuals with ADHD maintain focus on tasks, as they know what to expect and when to expect it. Additionally, forms of self-regulation is another form of recommendation experts say is effective when managing tasks with ADHD. “The idea is that by putting emphasis on particular objectives and creating a structure with immediate reinforcement, you can increase awareness of self-regulation and, through mindful observation, begin to internalize a sense of self-regulation not previously experienced” (Levrini, 2023). These regulations can include factors such as locking your phone from being able to open certain apps, not allowing yourself to indulge in other activities until finishing a task, and or limiting yourself from any rewards you might plan to give yourself until completion.

1. **Self-Discipline Tracking Feature:** Implement a feature that tracks the time users spend on social media, video games, and other distractions. The app should generate daily and weekly reports to help users monitor and manage their screen time, promoting better self-regulation.
2. **Notification and Task Reminder System:** Develop a customizable notification system that alerts users about important tasks, such as assignments, medication schedules, or daily to-dos. Users should be able to set preferences for the timing and frequency of these reminders to ensure they are effective in keeping users on track.
3. **Background Music Feature:** Integrate a music player that allows users to listen to calming or productivity-enhancing music while working or studying. The app should offer various genres or sound options that users can choose from, catering to different preferences for improving focus and concentration.

## Discuss and Reflect

The importance of understanding the results is crucial for identifying the key features to include in the app based on our observations of individuals with ADHD. These insights helped us determine which aspects to prioritize in the app, specifically those that can assist users in staying on track with their classes and maintaining focus on their tasks. The results guide us in developing features that directly address the challenges faced by people with ADHD. The limitations of the results stem from the fact that our observations were focused solely on how individuals stay on task, remain organized, and maintain focus on their work by observing them. This approach made it challenging to explore in greater depth how people with ADHD specifically experience difficulties staying focused in classes or work settings, or how they personally manage their symptoms. The strengths of the work lie in our ability to identify how the app can effectively support individuals with ADHD by helping them complete tasks, maintain attention, and improve focus while working. Our observations have provided valuable insights into the specific challenges faced by people with ADHD, allowing us to design an app that addresses their unique needs and enhances their ability to concentrate on their work. In our next field research study, we will ask more personal and in-depth questions to gain a better understanding of how individuals with ADHD manage to stay focused, organized, and attentive. This will allow us to explore their experiences more thoroughly and uncover specific challenges they face, helping us refine the app's features to better address their needs. We realized after conducting the observations that we were noticing how many results we got for self-discipline rather than reminders and media. We anticipated that self-discipline would have a significant impact based on our observations because we know that people who have ADHD would need a feature to keep them focused on their assignments to isolate them from distractions that will deter them from focusing on finishing their assignments.

## Next Steps

We will develop questions derived from the key findings of our observations from self-discipline, notifications, and background music to ensure they are more specific and relevant. This will enable us to gather detailed insights, allowing us to refine our app design and better meet the needs of individuals with ADHD by addressing their unique challenges.

# Appendices

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## Planning Materials

iPhone for recording observations

Taking notes on a notebook from the observations

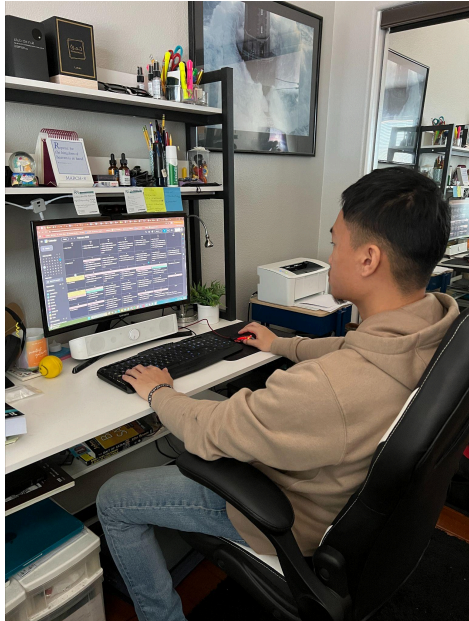
Terry

Google docs to observe on iphone

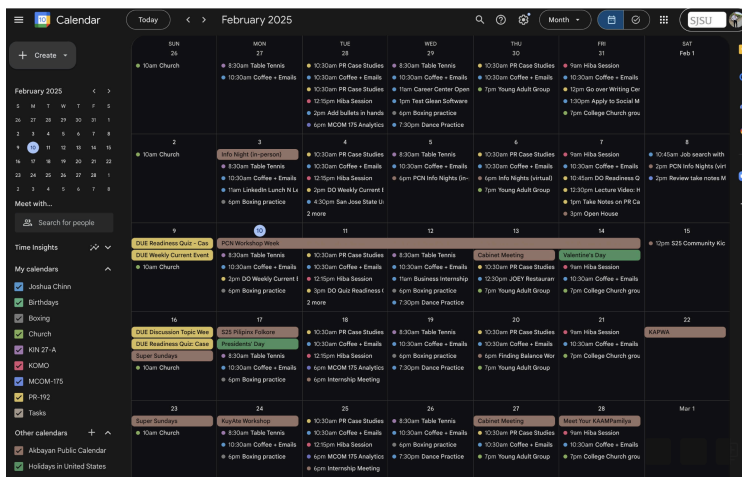
Laptop discord call

# Field Notes & Images

## Jasmine's users:



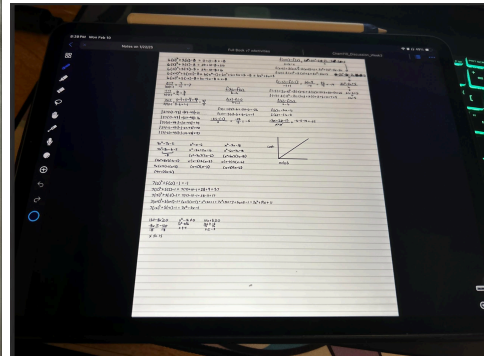
Joshua's workspace



Joshua's artifact—Google Calendar

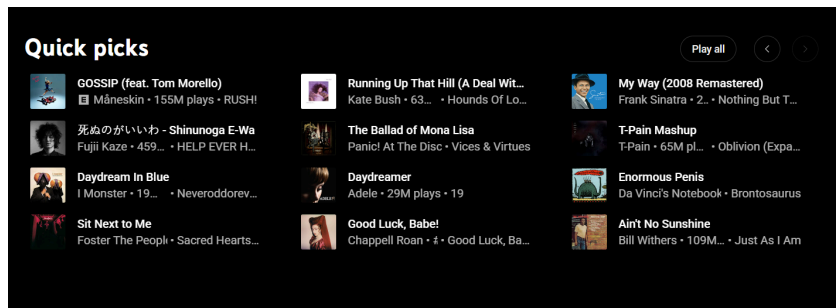
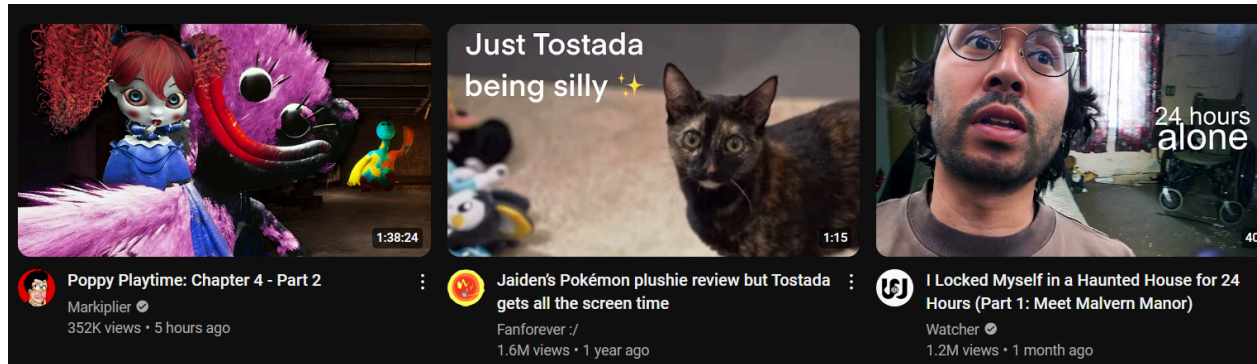
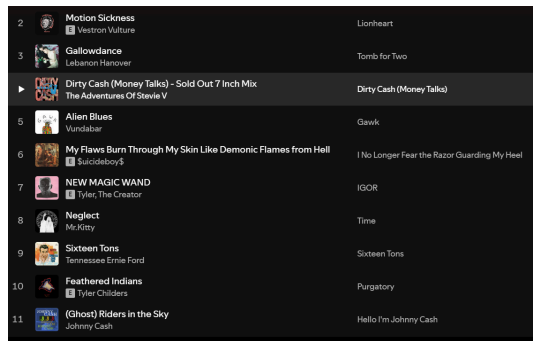
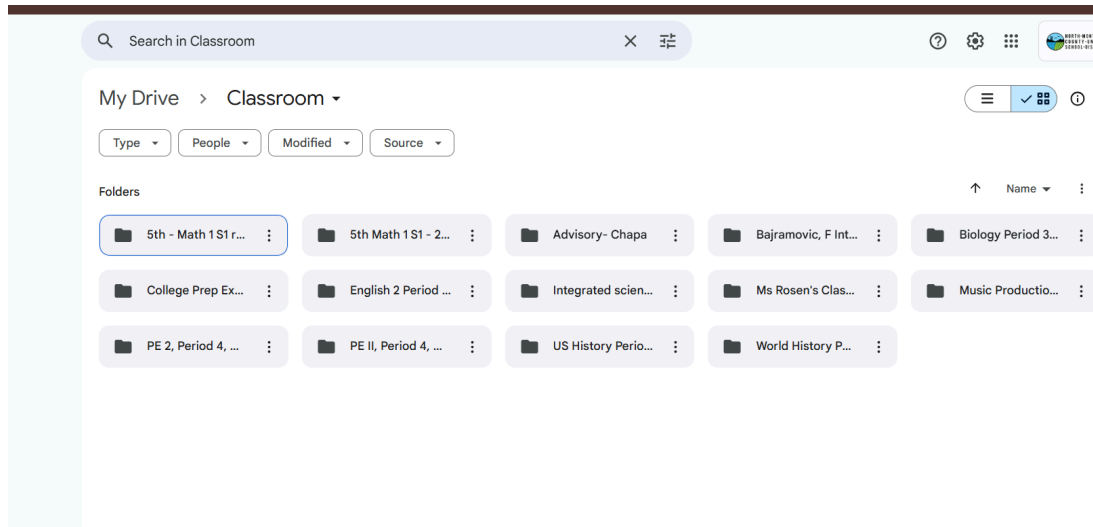


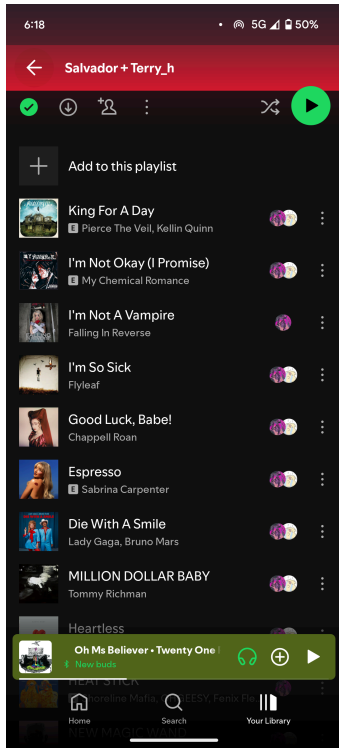
Mio's picture



Mio's artifacts – notebooks and iPad notes

# Terry's users:





# Images of Data Analysis

Affinity Map:

