

## Methodology

The main methodology used to gain insight into requirements for our task management system was interviews and surveys. In total, we had four participants who contributed their experience with planning and task management systems. The survey contained the same content as the key interview questions. These focused on productivity, distraction, the positive and negative aspects of current planning systems being used, and how those systems are used. Full interview and survey transcripts are included in the appendix for full question and answer details. Participant #1 was interviewed in person. Participants #2-4 were questioned via a Google Forms survey. Participants #1 and #2 were college students aged 20-25 and Participants #3 and #4 were older adults aged 50-55. Despite our target demographic being college students, we originally wanted the app to be utilized by anyone who likes to manage their tasks online. The insight provided from the older range was also quite similar to that of the college students. Students at colleges can be of any age, not just 20-25, so anyone who is enrolled in classes would be the target demographic, not just younger adults. If the ages were mixed up, they would be indistinguishable from each other. We also performed archival research and found articles that focused on insights for task management systems to find further requirements. The links to all of these sources are provided in the appendix.

## Key interview questions

- what motivates you to be productive?
- what stops you from being productive?
- what are some common distractions that you encounter when trying to get things done//?
- do you use a task management system?
  - if no -
    - why?
    - are there any features that you would require to start using one?
    - do you want to use one? if so why?
  - if yes -
    - what do you use it for?
    - what are some positive aspects that you think your system has?
    - negative aspects?

- How do you typically organize and manage your daily academic and personal tasks? Walk me through your process.
- Can you describe a recent situation where you felt overwhelmed with your tasks? How did you handle it, and what could have made the situation easier for you?
- Imagine the perfect task management for college students, what features would it have and how would it address your needs differently from other tools?
- Can you share a time where you failed to complete a task or project as planned? What did you learn from that experience?

## Observation targets

- Time planning and organization methods
  - Digital/physical tools
  - How they organize academic, personal or extracurricular
  - What they prioritize
- Time allocation
  - Planning versus executing tasks
  - Do they break down large tasks into smaller more manageable ones?
- Adaptability
  - How they adjust their task management strategies under different circumstances
- Stress management
  - Take breaks? Visible frustration? Skipping breaks? Deadlines
- Environmental influences, interruptions and distractions
  - What modifications they make to facilitate task management and concentration

## Basic interview skeleton

<https://www.nngroup.com/articles/user-interviews/>

- Introduction - “Hello [participant], thank you for taking the time to speak with us today. Your insights are invaluable to our research on how college students manage their academic and personal tasks.”
- Purpose - “We’re interested in learning about what strategies you use to manage your tasks, the challenges you face and what you believe could improve your task management experience. This will help us design a solution that better meets the needs of college students like yourself.”
- Confidentiality - “Please note that this interview is confidential. Your response will be anonymized and used only for the purpose of our research. You’re free to skip any question you’re not comfortable answering.”
- Consent - “Do we have your permission to proceed, and may we record this interview for analysis purposes?”

# Interview Scripts

## Participant #1:

[interview skeleton]

Q: Do you have a task management system?

A: Yes.

Q: What do you use it for?

A: Homework

Q: What are some positive aspects of your system?

A: I can see what I have to get done. Otherwise there's nothing good about it.

Q: What are some negative aspects of your system?

A: Does not remind me of anything, not organized, doesn't really help me get my stuff done. Planners don't really work for me either.

Q: what stops you from being productive?

A: Diet, exercise, getting out of the house.

Q: How do you typically organize and manage your daily academic and personal tasks? Walk me through your process.

A: I stay on campus until my homework is done. Usually takes me about 6 hours a day. I recognize my personal tasks that need to be done, and I set time aside to do it. I'll do them late at night if I have nothing else to do so I don't feel guilty about not being productive. I do them normally on a schedule. If I remember to do one thing I remember to do the others.

Q: What do you do if you don't remember?

A: I just don't do them. Reminders will help me get them done. For example, if the bathroom is dirty I will clean it. Hard to tell if floors are dirty though.

Q: Can you describe a recent situation where you felt overwhelmed with your tasks? How did you handle it, and what could have made the situation easier for you?

A: I had my senior conceptual design report due Tuesday, also had a report on rocking systems due Tuesday, and then a conceptual design presentation on Thursday as well as two exams on Thursday. I got through it by forcing myself to be here. My friends motivated me to come to campus which also influenced me to study. A supportive network was also helpful.

Q: Can you share a time where you failed to complete a task or project as planned? What did you learn from that experience?

A: Wood homework. I was twelve hours in, and I couldn't do the last problem. I learned I needed to start it weeks in advance. Studying enough for exams, I usually fail a lot on that. I focus too much on my other assignments.

Q: Imagine the perfect task management for college students, what features would it have and how would it address your needs differently from other tools?

A: Having different types of reminders. Differentiate itself from other reminders. Can't be annoying, could be automated like a message. Put in how urgent it is. Prioritize tasks as well as deadlines where it builds a daily or weekly schedule. Could have options to see the weekly tasks versus daily tasks. Suggestions on what to do in my free time as a reward. "Congrats you can now do these things." Adding reminders for self care such as drinking water and having study breaks. Adding timer intervals where the phone could lock. For example, studying for 15 minutes and then having a five minute break. This would be a customizable feature.

## Participant #2

Q: What motivates you to be productive in general?

A: My future goals.

Q: Can you describe a time when you were motivated to be productive or got a lot done? What aided you in this situation?

A: If there are high stakes, I am able to find more motivation.

Q: What stops you from being productive?

A: Laziness.

Q: Are there any common distractions that you encounter when trying to complete tasks?

A: My phone.

Q: Do you use a task management system (planner, calendar, reminders, etc.)?

A: Yes.

Q: What do you use?

A: I like using a planner.

Q: Are there any positive or negative aspects?

A: Sometimes I forget to update it.

Q: How do you typically organize and manage your daily academic and personal tasks? Walk me through your process.

A: I write everything down in my planner. Usually I start with my highest priority tasks.

Q: Can you describe a recent situation where you felt overwhelmed with your tasks? How did you handle it, and what could have made the situation easier for you?

A: This week I was very overwhelmed with my midterms. I have to just focus on my breath and try to ground myself.

Q: Imagine the perfect task management for college students. What features would it have and how would it address your needs differently from other tools?

A: An organized layout and reminders would be nice.

Q: Can you share a time where you failed to complete a task or project as planned? What did you learn from that experience?

A: I learned that the guilt of not doing an assignment is not worth the momentary relief.

### Participant #3

Q: What motivates you to be productive in general?

A: Having a purpose.

Q: Can you describe a time when you were motivated to be productive or got a lot done? What aided you in this situation?

A: [I get more done] when focused and in the zone. Having all the tools and resources I need.

Q: What stops you from being productive?

A: Running into distractions or problems with the path I'm trying to complete.

Q: Are there any common distractions that you encounter when trying to complete tasks?

A: Other technology, phone calls, texts.

Q: Do you use a task management system (planner, calendar, reminders, etc.)?

A: Yes.

Q: What do you use?

A: Apple calendar and Busycal.

Q: Are there any positive or negative aspects?

A: Able to handle multiple calendars from multiple accounts. Syncs across devices including watch. Works well 99% of time. Only complaint is that sometimes it is slow to sync new items

Q: How do you typically organize and manage your daily academic and personal tasks? Walk me through your process.

A: I use scheduled daily events along with priorities for non-scheduled items that I need to complete. Sometimes I insert blocks of time on the calendar to focus on my own tasks.

Q: Can you describe a recent situation where you felt overwhelmed with your tasks? How did you handle it, and what could have made the situation easier for you?

A: Situation where the day was already busy and many distractions occurred that were time sensitive. I had to juggle priorities to focus on the most important items.

Q: Imagine the perfect task management for college students. What features would it have and how would it address your needs differently from other tools?

A: Ability to handle something like Getting Things Done process which helps to manage scheduled and non scheduled items while maintaining some relative priority across all.

Q: Can you share a time where you failed to complete a task or project as planned? What did you learn from that experience?

A: Usually it was about better time and priority management. Sometimes it is about not being in the right mindset for important items that require concentration.

### Participant #4

Q: What motivates you to be productive in general?

A: A sense of accomplishment.

Q: Can you describe a time when you were motivated to be productive or got a lot done? What aided you in this situation?

A: Getting enough sleep.

Q: What stops you from being productive?

A: Being overwhelmed.

Q: Are there any common distractions that you encounter when trying to complete tasks?

A: Social media.

Q: Do you use a task management system (planner, calendar, reminders, etc.)?

A: Yes.

Q: What do you use?

A: AnyList (groceries), Pocketlife (calendar), alarms.

Q: Are there any positive or negative aspects?

A: They definitely keep me on track.

Q: How do you typically organize and manage your daily academic and personal tasks? Walk me through your process.

A: I look at my calendar then set alarms for the next few days.

Q: Can you describe a recent situation where you felt overwhelmed with your tasks? How did you handle it, and what could have made the situation easier for you?

A: Having too many things at once that needed attention. I did my best to squeeze it all in. I could have tried to change an appointment.

Q: Imagine the perfect task management for college students. What features would it have and how would it address your needs differently from other tools?

A: Keep track of classes, reminders for tests/homework, notes, make a study schedule

Q: Can you share a time where you failed to complete a task or project as planned? What did you learn from that experience?

A: Waited too long to finish a project then had a problem. I learned I need to be more scheduled and think about timing.

## Common Themes/Requirements

- ★ ability to use reminders and be alerted about tasks without having to actually look at the management system every time
  - alarm, notification, etc.
- ★ common distractions were outside sources like social media, phone use, other technologies
  - could set phone on lockdown mode and have pomodoro technique integrated somehow (study for a set period of time and then take a short break for a set period of time)
    - would have ability to unlock phone/stop focus mode, but there would have to be a loss of some sort
      - if the system is competitive, this would result in the loss of whatever the users are competing with
- ★ some people used a variety of task management methods for individual types of tasks like groceries, could combine into one. may be easier to keep track of
- ★ many interviewees used calendars, a long-term visual aspect seems important.
  - would like the ability to see many tasks at once, add calendar feature (put in task list and it automatically puts on)
    - with task list and calendar, users could find satisfaction in crossing off a list but automatically have access to a calendar based on their list
- ★ the ability to assign a priority level was also mentioned multiple times
- ★ important to us from prior discussion
  - competitive aspect, visual rewards, reward system in general

<https://dl.acm.org/doi/10.1145/3582429>

## Summary of Results

Many common themes arose throughout our interviews. A challenge/preference that appeared often was reminders. Interviewees struggled with remembering to update their current task management systems, and consequently forgot to complete tasks. Reminders are welcomed in this situation.

Participants were also frequently distracted by social media and other technology. One participant was also distracted by any problems encountered during task completion.

A visual component was often utilized and liked, whether that be a calendar, a to-do list, or a physical planner. Seeing all tasks that need to be completed was helpful to the management process.

Prioritization was another common theme. Participants often started their task management with high priority tasks, or labeled high priority tasks as such.

Productivity arose in different forms. Participant #3 attributed being in the zone and having the proper tools to their productivity, whilst Participant #1 attributed a similar thought, where they remembered one task and then remembered to follow through with the rest, kind of like a schedule. Two participants (#1 and #2) mentioned feeling guilty about not finishing work as a motivational method.

Participants managed their daily tasks in various ways. One put many tasks into a calendar for a long-range view of their future schedule, and set alarms for those tasks when they came near. Another schedules daily events in the same space as non-scheduled tasks, and sometimes assigns periods of time for personal tasks.

The state of being overwhelmed is another topic to consider when managing tasks. Based on our interviews, a large amount of tasks in a short period of time seems to be a common factor that contributes to being overloaded and overwhelmed. This included many midterms in a week, a project that was completed at the last minute and took longer than expected, and the presence of many tasks in general. Participants dealt with these scenarios by persevering through, taking a second to ground themselves, and by prioritizing the most important tasks.

Participants were also asked to consider what an ideal task management system for college students would look like to them. Participant #3 recommended the ability to have scheduled and non-scheduled items in the same space with priority levels, as well as a process for “getting things done”. Participant #2 favored an organized layout and a system for reminders. The ability to create a schedule, add classes, and reminders for tests or homework was offered by Participant #4. Finally, Participant #1 strongly focused on the presence of a reminder system, but with different types of reminders, like those for tasks and those for important events (drinking water, eating, etc.). Users would also have the ability to view a short versus long term agenda, and would be rewarded with activities to do in their free time. They specifically did not want the system to be annoying when pertaining to alerts. The same participant also suggested the use of a phone lock for a certain period of time to avoid distractions.



# Subsequent Requirements

## Customizable Reminder System

- Incorporate various reminder types that are not intrusive but are effective
- Enable users to set urgency levels for tasks to aid in prioritization
- Develop a scheduling system that can automatically suggest daily or weekly task schedule based on priorities and deadlines

## Self-Care and Motivation Integration

- Include reminders for self-care; hydration, snacks, scheduled breaks
- Implement reward system that suggests leisure activity upon the completion of tasks or goals

## Connection with Community

- Help motivate and engage through connecting with their community and friends
- Receiving a reaction from the community
- Reward system in order to feel accomplished
- Reminding benefits of achievements

## Distraction Management

- Offer functionality to limit smartphone or other application use during designated study times
- Provide users with insights on their productivity patterns and suggest improvements

## Comprehensive Task Management

- Ensure the system can integrate academic, personal and extracurricular goals in one place
- Cross-platform synchronization
- Suggestion of steps to achieve
- Suggestion of feasible goals and schedule

## Progress Bar

- Real-time feedback on task completion
- Milestones within the progress bar could also potentially unlock rewards

## *What differentiates your project from comparable tools or systems in the world today?*

Many task management tools focus on a single aspect of task management, like a to-do list or a calendar or a study timer. Instead of just focusing on a single function, our tool would have multiple functions within one app. Whilst this may seem like it could be overbearing and busy (a lot of content), it doesn't necessarily have to be. A clean and minimal aesthetic with multiple pages would allow this content to be separated, but easily accessible without having to switch between many apps and planning systems. Our design would also have an aspect of competition, which many task management tools don't have. This is to be utilized as an additional but optional motivational technique.

*What are the most important tensions for you to consider in your design and development process?*

Providing users with an extensive amount of customization could potentially overwhelm users, leading to decision fatigue or disuse of the system. Users could even potentially spend too much time customizing their experience which is counterintuitive. Adding too many features could also create an overly complex system and can be difficult to use, especially for those seeking simplicity. This requires prioritizing features that offer the most value while maintaining usability. Features that promote social connectivity and collaboration must also be balanced with privacy and security to protect user data. The product must also be accessible to all users with disabilities by integrating accessibility features, contrast ratios and keyboard navigability.

## Appendix

UX Case Study:

<https://medium.com/@tmtmtmtmwdwdwdwd/ux-case-study-insights-for-task-management-aps-5d5b17d7fdea>

Managing Tasks across Work-Life Boundary: <https://dl.acm.org/doi/10.1145/3582429>