Task Pal

Leave the planning to us!

Team 22: Kern Lee, Cameron Lopez, Tiffany Perumpail, Michael Pollack, Kenneth Tsai

Project Overview

Task Pal is a **schedule management application** synced with Google Calendar that aims to help individuals with anxiety disorders cope with the stress of scheduling.

When users want to input a task, they provide an estimated completion time and a due date, and Task Pal will schedule it automatically - taking into account the user's preferred work habits (saved in settings) - and will also split up long tasks into smaller segments where appropriate.

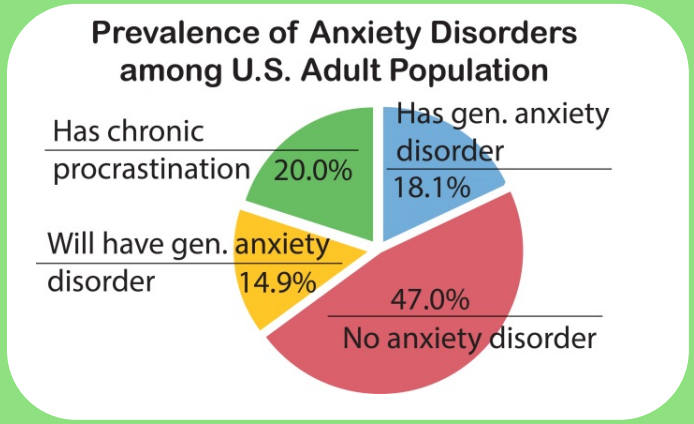
Finally, Task Pal checks in with the user when a task nears completion; if the user indicates that they have not finished, Task Pal will reschedule it automatically.

Target User Group

Target Users: Individuals suffering from task management anxiety disorder and/or chronic procrastination.

Symptoms of task management anxiety:

- Urge to avoid events that trigger anxiety
- Consistently overwhelmed by obligations
- Overestimation of time available



Symptoms of chronic procrastination:

- Habitual delay in decision-making
- Irrationally putting things off to the point of detriment

Design Process Overview

1. Brainstorming
2. Stakeholder Interviews
3. Initial Sketches
4. Scenarios
5. Wireframes
6. Intermediate Sketches
7. User Studies
8. Final Design

Brainstorming

During our brainstorming phase, we came up with 50 ideas targeted towards a wide variety of disabilities (physical, mental, learning, and more.) We chose our top 3 ideas based on **quality** and **feasibility**:

Problem Support Button

Target Users: Individuals with panic attacks.

Functionality:

- A "HELP" button to press during a panic attack that texts emergency contacts and displays helpful resources.
- A log of when & where panic attacks occur

Shared Family Medication Reminder

Target Users: Families affected by Alzheimer's Disease.

Functionality:

- Shared medication log among memory-impaired individuals and their caretakers
- Location-based reminders

Anxiety Disorder Task Manager

Target Users: Individuals with task management anxiety.

Functionality:

- Automated scheduling for individuals who feel overwhelmed planning out their calendar
- Positive reinforcement messages about progress

Stakeholder Interviews

Interview 1: Student with Anxiety

- Interviewed in the Starbucks on Oxford, across from the UC Berkeley Campus
- Student at UC Berkeley active in research and on-campus organizations
- Has a frequently shifting schedule and often has to account for new tasks at the last minute
- Wants to be able to plan out their week, but still needs to be able to adjust when things go wrong

Interview 2: Student with Depression

- Interviewed in a cafe on Berkeley Way West
- Cognitive Science student and 5th year senior at UC Berkeley
- Diagnosed with depression as a senior in high school
- Started taking antidepressants in 2017
- Sees a therapist weekly
- Eager to graduate as soon as possible and financially support their parents

Interview 3: Psychologist

- Interviewed in their office
- Has been a Psychologist for 20 years
- Works primarily with Engineering students
- Works with many clients who have depression and/or anxiety
- Believes that a task management application such as Task Pal could really help some of their clients

Stakeholder Interview 1

Primary Concerns

- Needs an application that can help them have the foresight to plan for **large events in the future**, such as an essay due after the weekend of a major club event, so that all of that work is **not crammed into the few days before**
- Often finds that creating tasks in Calendar applications is **too time-consuming**, normally just sticks to pen and paper
- Wants an application that can help them **assign priorities** to tasks

Suggestions

- Make sure that the app is able to **reschedule tasks** in the event that the user is not able to complete them in the allotted time
- Make sure that scheduling is based on user's **work habits**
- Have the **priority of a task be adjusted** as the deadline approaches
- Have the user be able to **adjust the time allotted** for each task

Stakeholder Interview 2

Primary Concerns

- Needs to be able to i**nput tasks very quickly**, as new tasks are often given to them at random throughout the day
- Worries that depressed individuals might use this application for a short period before giving it up unless some **positive reinforcement** is involved
- Believes that any new scheduling application would have to **work with an existing calendar app** to integrate with broader schedules

Suggestions

- The application should send only **positive or reassuring messages** to its users, and nothing that would make them feel ashamed or inadequate
- Believes a **warm and friendlier feel** than most professional applications could be very welcoming
- Would like to see some method of **keeping the user accountable**
- Suggests the idea of **chatrooms** between different users of the app

Stakeholder Interview 3

Primary Concerns

- Students with anxiety often set unrealistic standards, are overly harsh on themselves, and have difficulty **seeing their own positive qualities**
- Generated schedules need to be **realistic**: if student is unable to complete their schedule, they will feel worse about themselves
- App needs to bo**lster student's confidence**, as victims of anxiety often have a great deal of issue with this

Suggestions

- App should schedule "**buffer times**" between tasks so that scheduled tasks are not back-to-back
- Would be helpful if the app **recorded logs** that could easily be uploaded into the student's emergency medical record (EMR)
- Further suggests that these logs should contain the data on the application's most recent usage, allowing therapists to treat their patients using the **most immediately relevant information**

Initial Sketches

We based our initial sketches off data gathered from an initial round of **user interviews**, using their feedback as our **main design goals**. We interviewed:

- Two UC Berkeley **students**, one suffering from an anxiety disorder and another suffering from a depressive disorder
- An on-campus **psychologist** with relevant knowledge and experience concerning task management anxiety and chronic procrastination

In summary, our goals were to make the app's interface as **welcoming** and **calming** as possible, and **simple** to use.

Initial Sketches

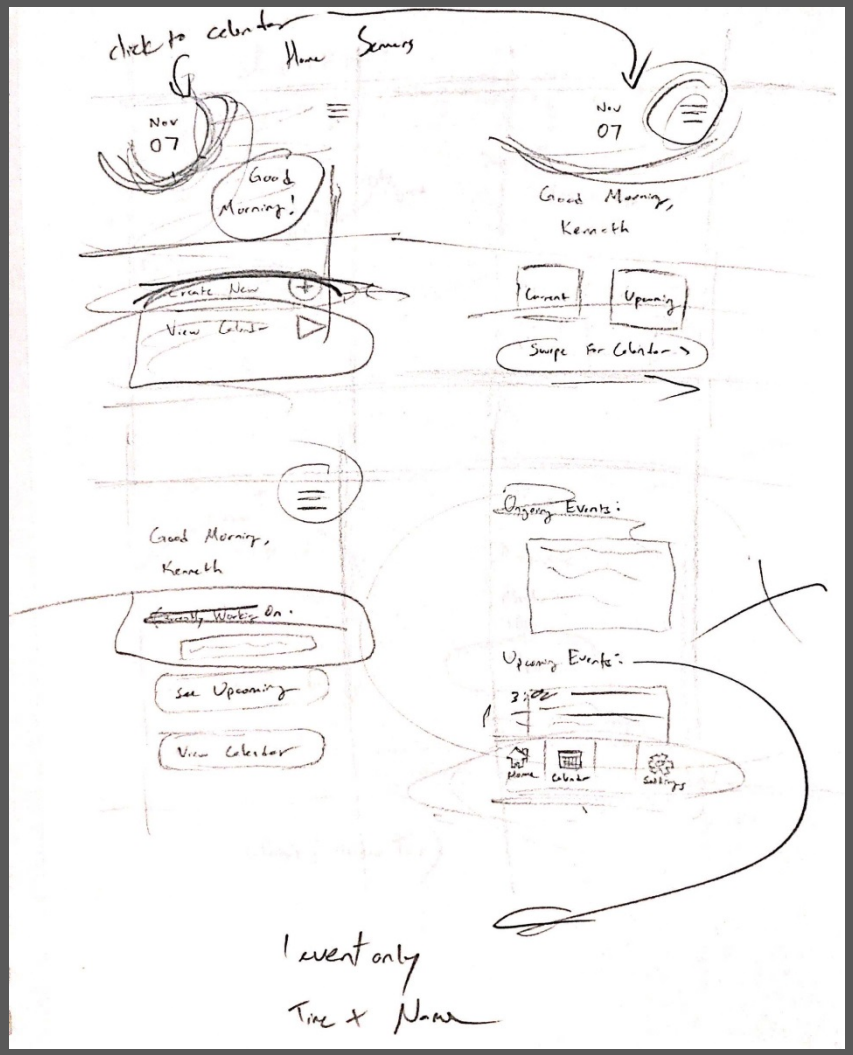
Home Screen

Goal 1: Create an interface that is less coldly professional

Solution: Rounded motif and friendly welcoming message

Goal 2: Reduce information clutter

Solution: Only include the most important buttons



Initial Sketches

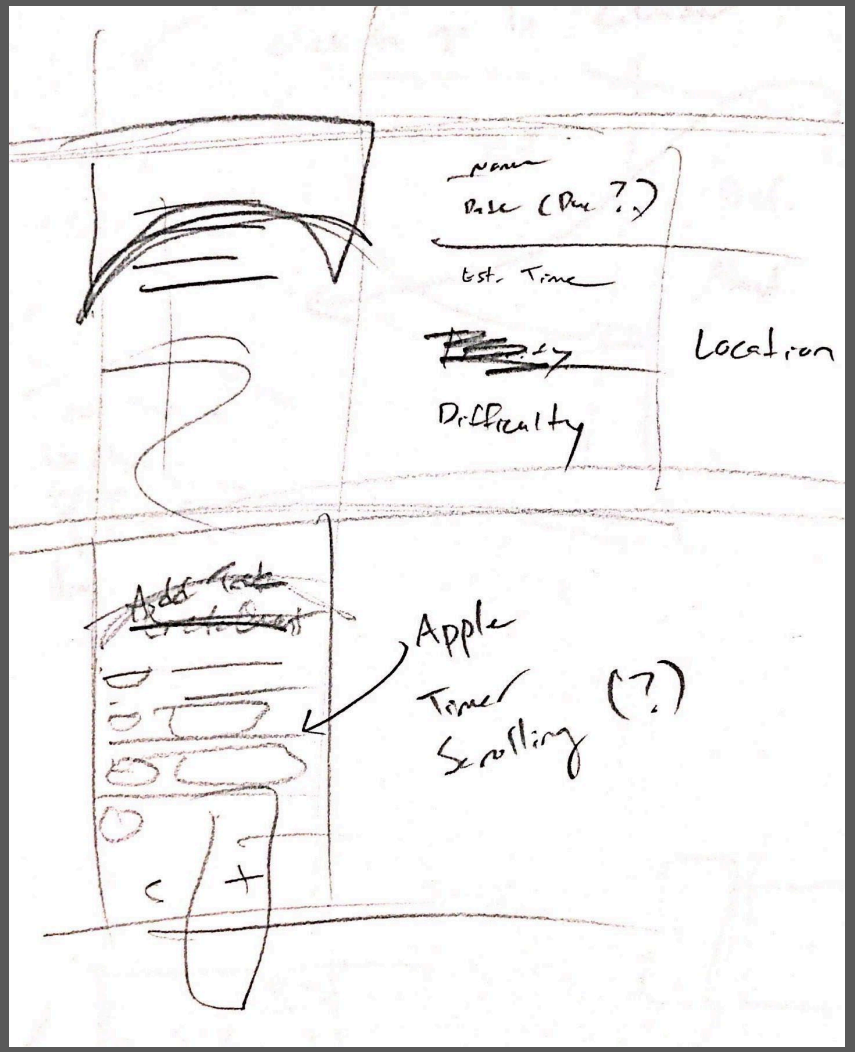
New Task Screen

Goal 1: Minimize the amount of data users need to input

Solution: Compact inputs down to only the essentials

Goal 2: Reduce information clutter

Solution: Choose selectors that don't crowd the screen.



Scenarios

We also drafted two potential scenarios to show **key use cases** and aid with designing the initial wireframe.

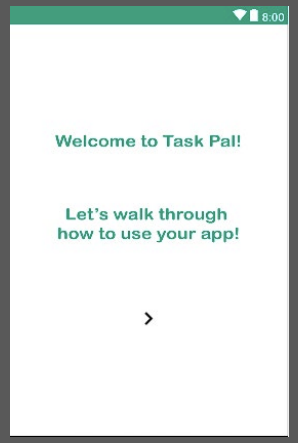
Our first scenario is an **unboxing** scenario and helped identify a need for us to be able to detail how to use our app.

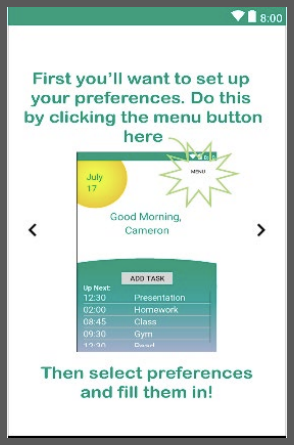
Our second scenario is a **context** scenario which helped to inform the workflow of our wireframe.

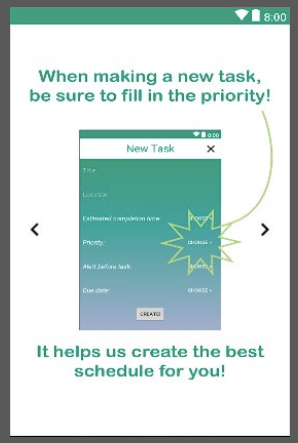
Scenario 1

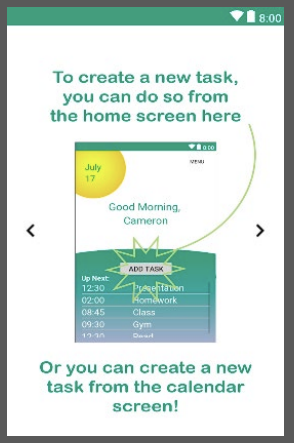
Unboxing Scenario: Kelly is a pre-med Microbiology major at UC Berkeley. She has to juggle research, volunteering, and schoolwork, all while dealing with chronic procrastination. She often misses deadlines because she has a ton of work to get done and ends up feeling so overwhelmed that she puts her work off until the last minute.

She decides that she needs help managing her workload and decides to use Task Pal. When she first opens Task Pal, she is greeted by a tutorial that walks her through how to use the application. The tutorial guides her through how Task Pal can generate a working schedule for her. It describes how she just needs to input each of her upcoming tasks and deadlines and her working habits, and Task Pal can integrate with her Google Calendar and plan around her schedule. Kelly thoroughly understands how to use Task Pal, proceeds to input all her tasks for the rest of the week, and then examines the generate schedule.







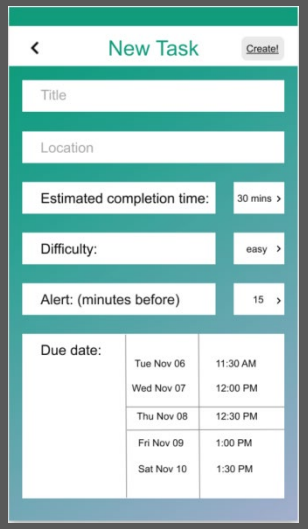


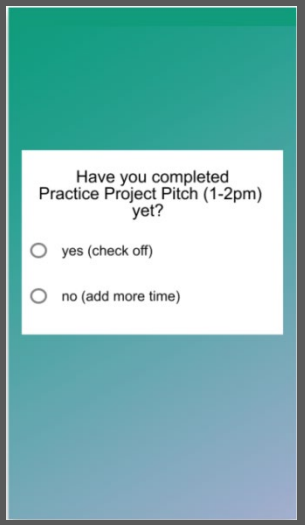
Scenario 2

Context Scenario: Mark is an product executive at Costco in Illinois. He has task management anxiety, and finds it difficult to plan a schedule for himself when his workload becomes large. One day while in the office, the CEO asks him to present all of his progress for the past 6 months at a big company-wide meeting in two weeks, which causes him to begin to feel anxious about whether or not he has the time to prepare a good presentation.

Mark opens up Task Pal and clicks the Add Task button. After naming the task, he is prompted for a priority (he sets this to high) and a due date in two weeks. He is also prompted for an estimated completion time, which he sets to “all day”, just to be safe.

After confirming the details, Mark creates the event. Task Pal pulls up his Google Calendar, and Mark can see where Task Pal has scheduled worktime for this presentation. Mark can also see that Task Pal has split up this task into smaller segments, distributed throughout the week. Mark feels relieved, and his anxiety lessens. He also feels secure knowing that should he begin to lag behind, Task Pal will check in with him and reschedule his working time so that he can still finish the presentation.

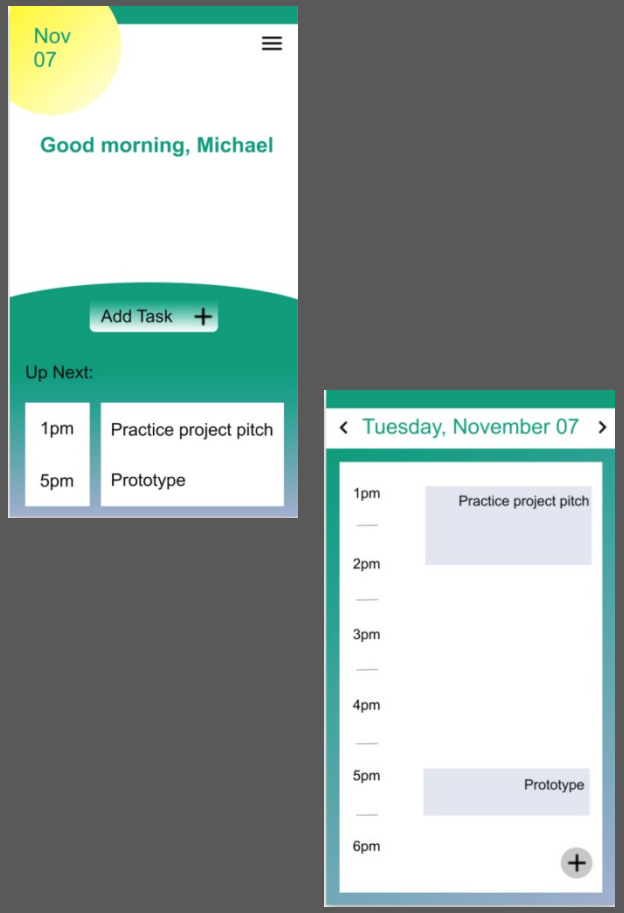




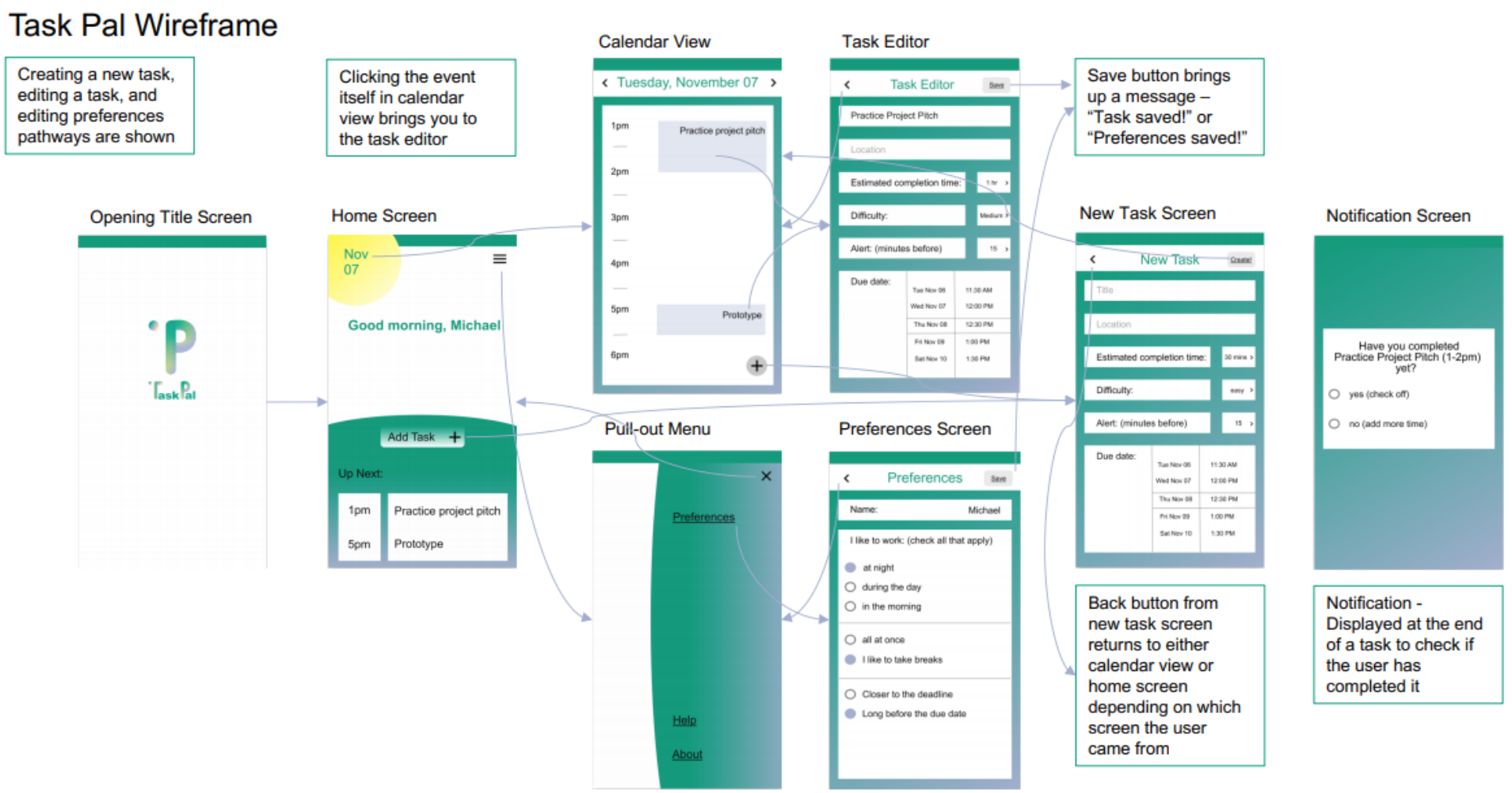
Wireframes

After considering all our design variations, we consolidated our top sketches into wireframes designed in **InVision**.

Here, we settled on the app's basic workflow as well as some of the **shape** and **color** designs.



Full Wireframe Workflow

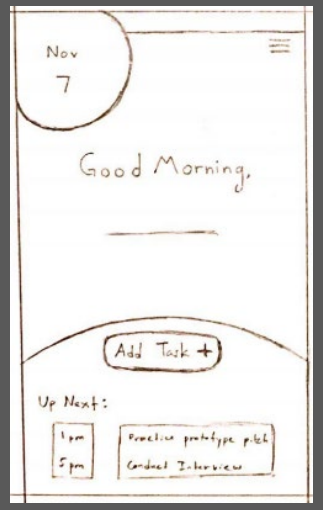


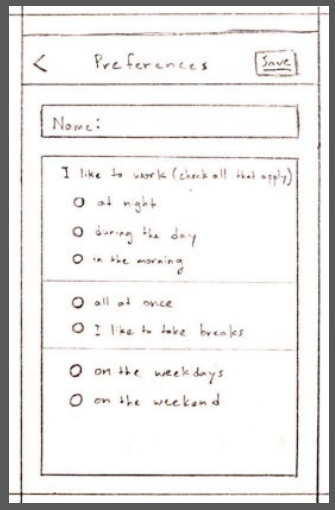
Intermediate Sketches

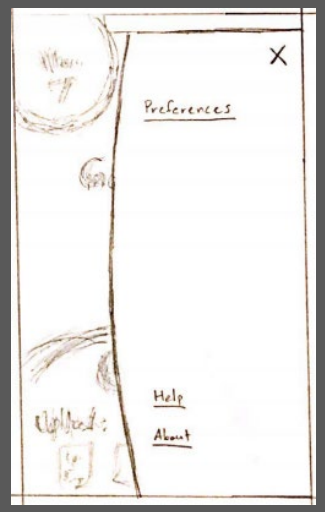
We created intermediate sketches by **cleaning up** the design of our wireframes.

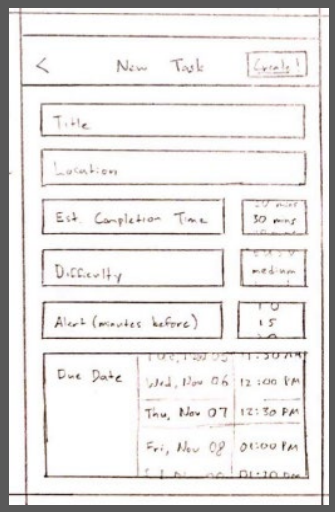
Each screen was cut out alongside a mockup phone, keyboard, and scrolling option bars.

These sketches were used as **lo-fi prototypes** when conducting the second round of user interviews.









Lo-Fi Prototype

The lo-fi paper rendering of our wireframes

User Study 1

This user study was performed using the assistance of the student with anxiety who also gave us Interview 1. The primary points of this student's interaction is as follows:

- Initially tried to tap the space with the user's name. When this did not work, quickly moved in to use the menu.
- Easily knew how to navigate to the new task page from the home screen.
- Clear to user that they needed to scroll through the options on the new task page (claimed that the gradient coloring helped with this).
- Said that a "Priority" option would be more helpful than a "Difficulty" option in the task creation page.
- Confused by when the "alert" option would come into effect: "Is it before the due date or before I have to complete the task?"
- Recommended adding a differentiation between "Tasks" and "Events", the latter lacking any difficulty attached to it.
- Found the one-day-at-a-time structure of the to-do list to be constraining, wanted to be able to see further in the future or the past.

User Study 2

This user study was performed using the assistance of the student with anxiety who also gave us Interview 2. The primary points of this student's interaction is as follows:

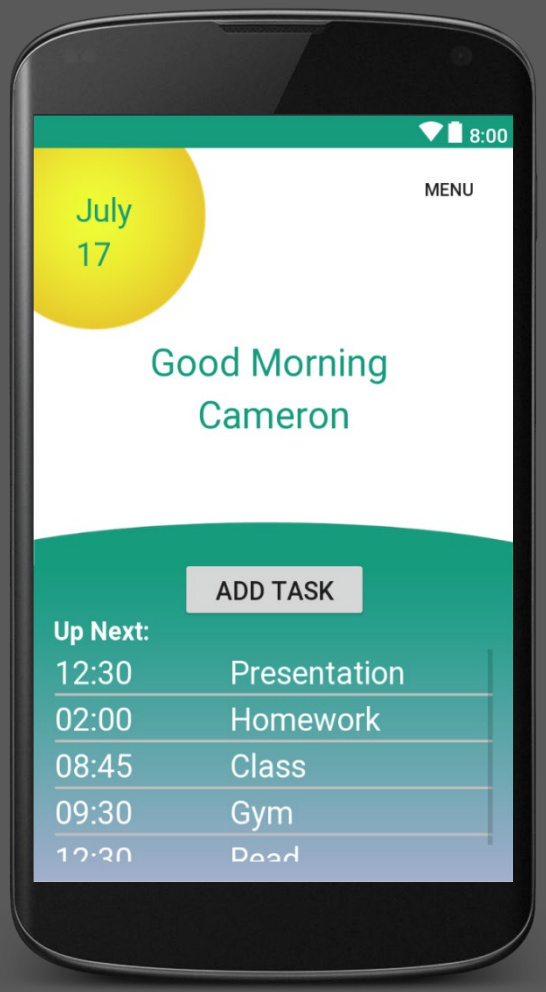
- Initially tried to set name by pressing the user name on the home screen, then quickly found the "Preferences" page and changed it there instead.
- Found the process of adding a task to be very simple, though recommended that the "Location" field be optional, and that an option to alert the user a day before the task should be present.
- When asked to look for the Calendar Screen, immediately pressed on the sun, but admitted that he would not have known it was there if he had not been told that the Calendar Screen existed.
- Commented that multiple days should be visible at once in the "To do" section.
- Noted that there should be a way to set repeating tasks
- Enjoyed the friendly feel of the home screen
- Overall felt that the app could do with less clicking, as there is a great deal of clicking required to navigate around the app's various functions.

Final Design

Our final design stayed largely **similar** to our intermediate design, due to positive user feedback.

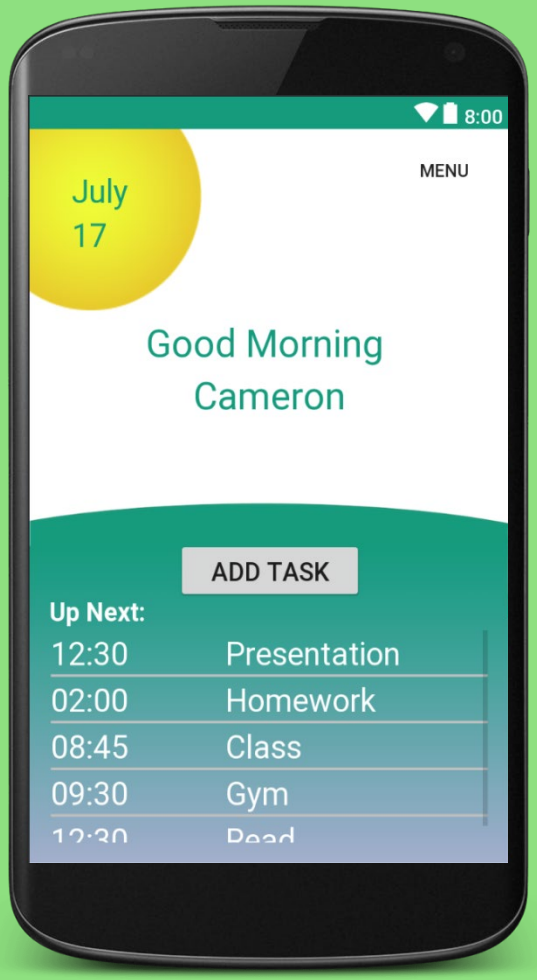
Some changes we implemented in our final design include:

- Preferences and New Task screens have been restyled to **remove whitespace**, which our users said made the screens feel cluttered.
- Viewing the calendar takes the user **directly to Google Calendar**, reducing hassle if changes need to be manually made.

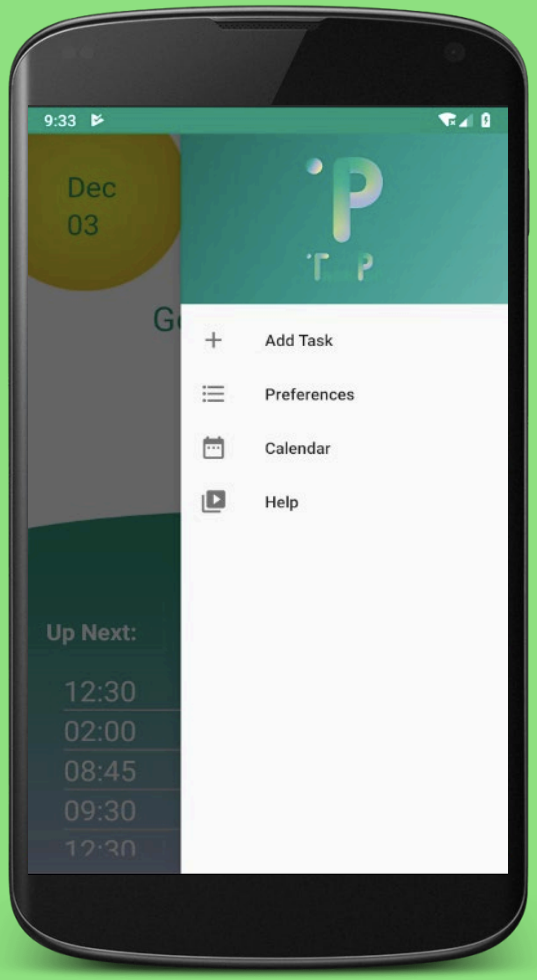


Final Design: Representative Tasks

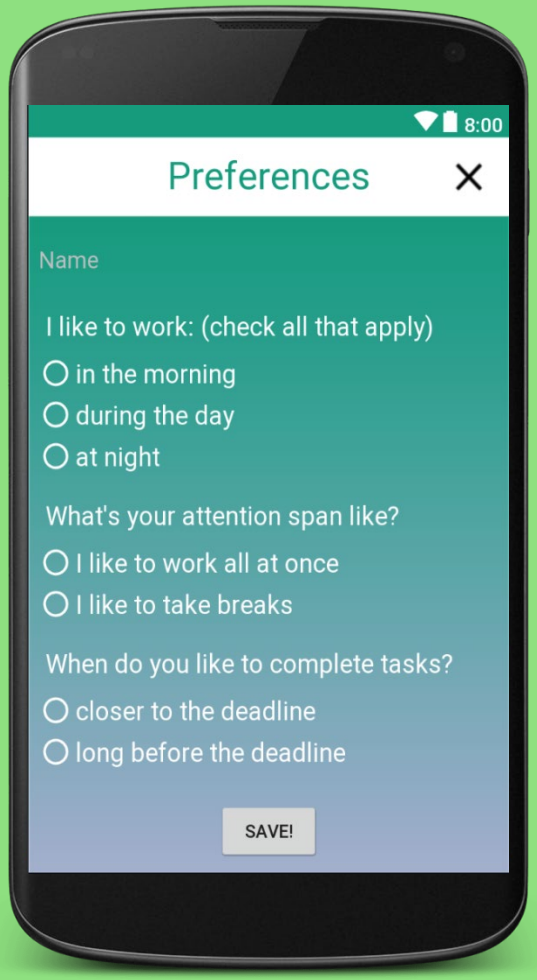
Home Screen



Menu

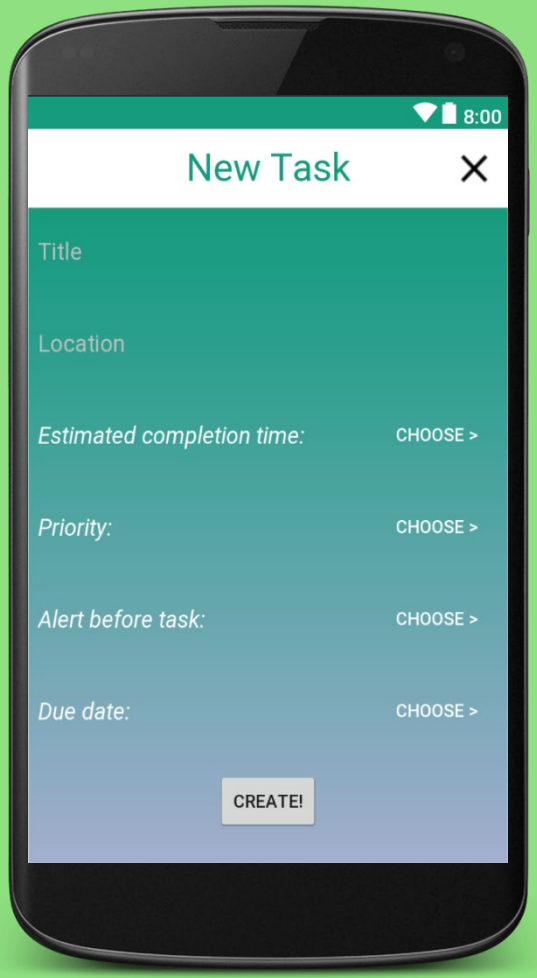


Preferences

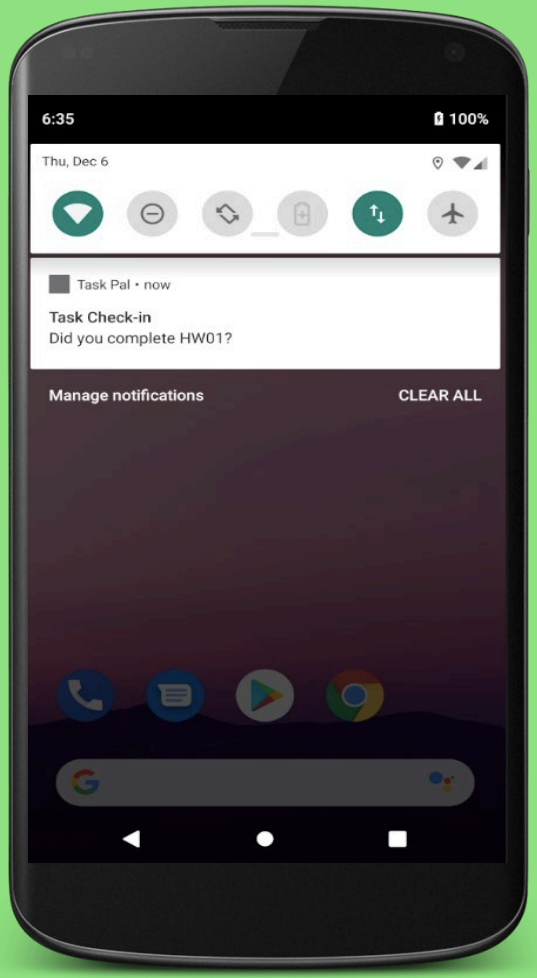


Final Design: Representative Tasks

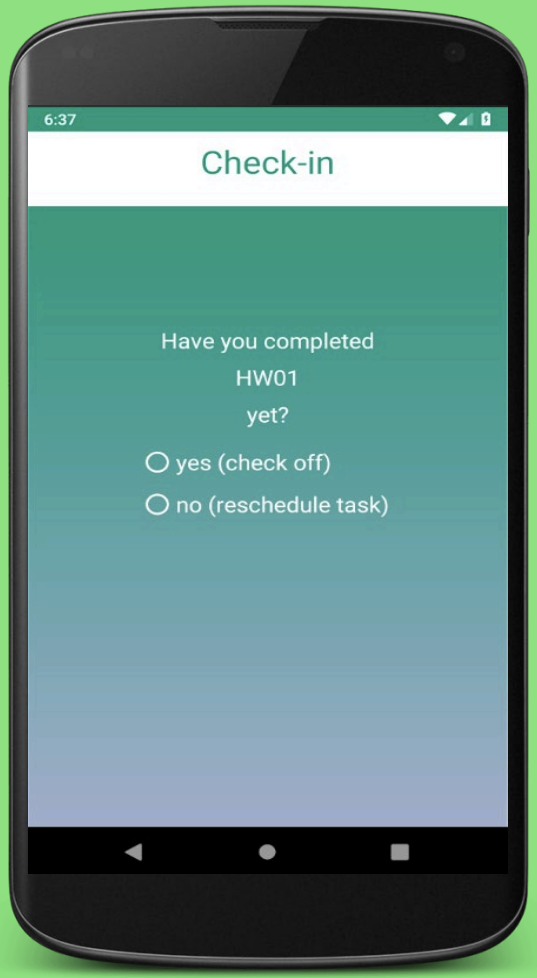
New Task



Notification



Confirmation



Technical Concerns

Task Pal requires an Android SDK of 26 or greater (this is the minimum SDK required to run notifications).

Technical Challenges:

Our chief concern was handling the logic determining where tasks should be placed into the schedule and how tasks should be split if the estimated time to complete them was too high (taking into account the user's preferences for having breaks).

Additionally, the largest cause for debugging was integration with Google Calendar, including saving the user's account and properly retrieving data from Google.

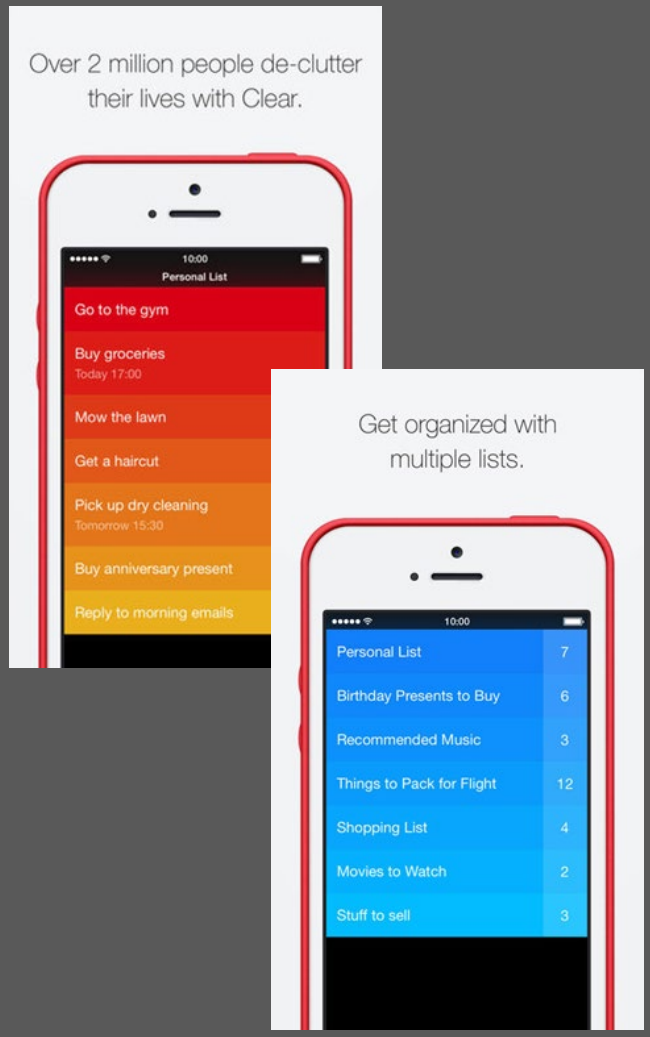
Competitive Analysis: Clear Todos

Target User Group: General public.

Functionality: Offers an easy way to create and customize lists of to-dos. Uses gestures to create new lists and add tasks.

Usability: Clean and simple to use. At its core, it is an easy-to-use task manager that adds in tasks for the user, but doesn't offer much more than being a digital list.

What we offer: Task Pal considers deadlines and estimated completion time, and works with the user's present schedule. It also considers user work habits, which Clear Todos does not.



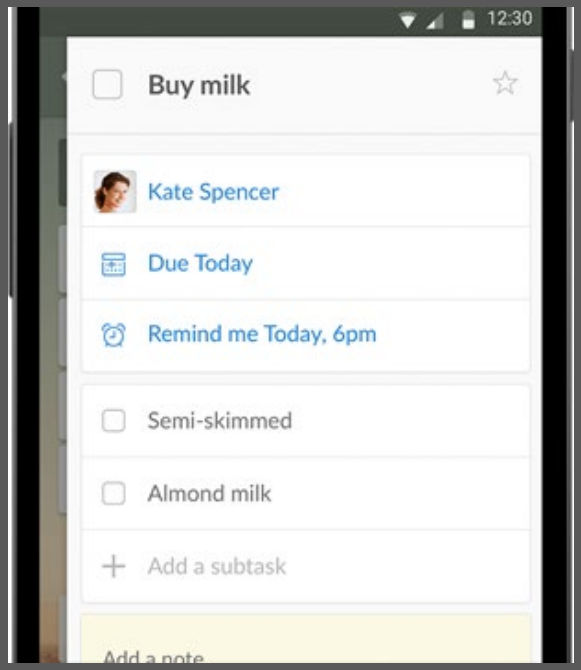
Competitive Analysis: Wunderlist

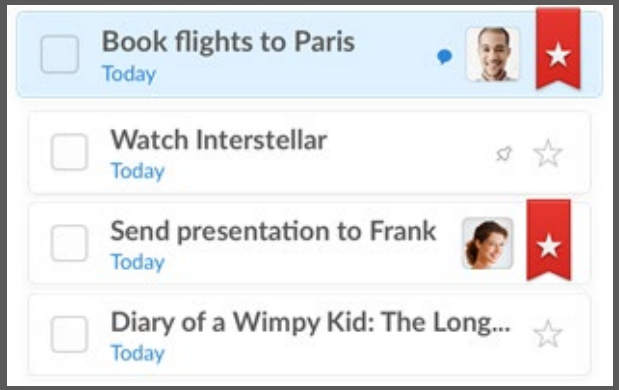
Target User Group: Working professionals that often operate in teams.

Functionality: Allows the user to share tasks and deadlines with other people. The app can set deadlines and subtasks, and has a chat functionality.

Usability: Task sharing and built-in chat are good benefits for the professionals Wunderlist is targeting.

What we offer: Task Pal has a different audience. While there is some overlap, many of the benefits of Wunderlist are not particularly necessary to our target group, which is significant because our users value simplicity and minimization. Additionally, Wunderlist does not perform automatic scheduling, while Task Pal does





Competitive Analysis: RescueTime

Target User Group: Professionals looking to optimize their time.

Functionality: The app analyzes your activity and how much time you spent doing each activity. It creates a report detailing time spent and areas of improvement.

Usability: Reports are aesthetically pleasing and help users interact with the app. The heuristics of how the app measures time spent are a bit finicky and not well documented.

What we offer: While RescueTime places the burden of optimization on the user, Task Pal performs the “optimization” itself, freeing its users of that stress.

Novelty and Value

Task Pal is unique among the market because it is designed for a narrower target group – those suffering from task management anxiety and chronic procrastination.

While Task Pal is certainly usable by the general population, its features are specifically intended to alleviate the symptoms of anxiety disorders. Compared to its competitors, the app is more personally uplifting and focuses on taking as much workload as possible off of the user's plate.

We hope that our target users find value in this design, and that by using Task Pal they will be able to plan and work with greater security.

Summary

Task Pal is a task management application that uses one's preferences to schedule his or her tasks according to that task's length and priority, relieving its user from the stress of scheduling.

With this application, we hope to aid individuals who suffer from task management anxiety. With Task Pal, a user can relax, be productive, and leave the planning to us!

Code Repository

Link to Github classroom repository:

https://github.com/cs160-berkeley/finalproject-fa18-group22-fa18

Link to original Github repository (more detailed commit history, same final code):

https://github.com/tiffanyperumpail/task-pal