Carpe Diem — Aldebaran

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We found that setting goals or creating habits is a large part of how college students and working professionals stay productive. Given the volume of productivity applications available in the market, we also realized there is a gap in most to-do list managers. Alongside the things we *have* to do every day, there are the things we *strive* to accomplish each day. These are habits we want to build and small steps we choose to take towards a larger goal. Our application and initial prototype combines these two main workflows into a single easy to use tool. Our main focus was to design something that draws upon existing patterns so that the ramp time is low, but offers a rich feature set. Goals and tasks are similar enough in nature where we can leverage the same design patterns, but different enough where they demand their own unique key features. The first set of screens hone in on the key differences of these two major workflows but have a look and feel that we hope will delight our target audience of students and working professionals.

**KEYWORDS**

Goal; Calendar; To-do; Productivity; Progress

## Prototype URL

<https://www.figma.com/file/MTyXdKqDHornhd86U0qzMb/Design-Gallery-Concept>

# Introduction

The goal of this project is to create a compact, all-in-one application that provides users with the necessary tools to be organized and productive throughout their busy lives. This app is built with our team’s personal experience of being busy students, employees, athletes and much more, in addition to balancing a healthy personal life. The target audience that we intend to reach are young adults with busy lives, specifically college students or working young professionals. These young adults may struggle to find balance in their lives as they juggle numerous commitments such as deadlines for work, school coursework, sports practices, and more in addition to maintaining a healthy personal life.

Our application’s goal is to be all-inclusive in functionalities in order to help one be successful by being organized and staying on top of their tasks. These functionalities include the basic necessities such as calendars, to-do lists, notes, and reminders. Through our user interviews, we added customizable functionalities like habit and goal trackers with options to set custom reminders. This functionality allows users to not only use the application to organize their future, but reflect on their past and progress. This functionality allows users to not only use the application to organize their future, but reflect on their past. This allows users to better understand how their schedule impacts them and reflect on their goal progress.

Through our user research and feedback, our team decided on Concept #1 due to the visual aspects. This concept is able to effectively break down and display the users daily, monthly, and yearly progress on their goals and habits. Additionally, we are able to implement aesthetic colors and design concepts that make the application visually appealing. We also were able to implement features of Concept #2 and Concept #3 into this iteration of the application. In addition, we are able to apply all the functionalities that allow users to keep track of their future plans as well as look back on their progress.

Since selecting this concept, our team used further feedback to create a working prototype that allows users to navigate through the application and use each functionality. With our current concept prototype, we are able to begin running user tests and heuristic evaluations. Using the data collected from our usability tests and heuristic evaluations, we will be able to further improve each functionality and the overall design of the application.

# Prototype Summary and Revisions

Our main focus on this next iteration of our prototype is to create interactions and states between each screen. Our previous design only featured the initial state of each functionality. We worked on cleaning up each screen and adding states. We were able to create a workflow in the prototype that allows users to log in, navigate to any screen from the dashboard and the bottom navigation bar, look at an expanded view of a specific goal, create new goals, switch from the monthly and yearly view of goal progress, create new tasks, check off tasks, see events on the calendar for a specific date, and create events. Based on our feedback, when creating new goals, to-do items, or events, we decided which fields should be left blank for users to freely enter data and which fields to include drop-down pre-defined options.

# Prototype Description

Our prototype anchors around all the things people typically do in a day, whether that is task management or tracking habits and goals. Given the abundance of to-do list apps on the market, our idea was to set ourselves apart by also having a habit tracker. Often we do really well at crossing items off our to do list, but our long term goals suffer. Whether it’s exercising weekly, drinking enough water daily, or getting enough sleep. Having a combined app that serves every aspect of our daily life is what really guided our initial prototype.

Our end-to-end workflows include logging in, setting goals or creating tasks and viewing goal or task progress. We wanted the workflows to resemble each other enough where users can quickly apply learnings to each workflow. Meaning, a user would not need to spend time learning how to manage their goals then make a similar investment in learning how to manage tasks. As an example, when viewing the monthly calendar for tasks we use the dark filled circle on a day to signify that there are events happening that day. This is a common pattern in almost any calendar app. In order to use the same familiarity but make it work for goals, we use the dark filled circle to signify that they met their goals for the day. Here we achieve enough parity so that viewing a month of information is easily digestible while also relaying different information i.e. goals versus task progress. Design consistency and implementing design patterns was extremely important in our initial prototype.

## Prototype Screens/States

### Login

The top of our login page has the name and logo of our application. There are text fields for the username and password, with a login button below. There is also an option to click a button that will take you to a new page to create an account.

### Dashboard

The dashboard acts as the home page once the user is logged in. It welcomes the user and has large buttons that correspond to the different screens of the application. The arrows can be clicked in order to navigate to the corresponding functionality. At the bottom is a brief summary of today’s goal progress.

### View all Goals

This page shows the date and the percentage of completion for all goals on the particular date. The “your goals” section shows each individual goal and it’s progress for the day. It also has a button to take the user to the create goal screen.

### Log Goal

The user is taken to the log goal screen when they click on an individual goal. There is a dial to add progress to the current goal and a button to save progress.

### Yearly Progress

The yearly progress screen consists of a bar chart, where each bar is a month out of the year. The y axis is the number of days out of the month. There is a toggle bar to switch between monthly and yearly view progress.

### Monthly Progress

The monthly progress screen is a calendar format. If the goals were completed for a specific day, then that day is shaded in. If the goal was not completed, the date is left empty. There is a toggle bar to switch between monthly and yearly view progress.

### Create Goal

On the create goal screen there are several options of things to add to a goal. The first is an option to add an icon for the goal. The name of the goal is next. Followed by a description of the goal. Then the ability to add reminders and the frequency of the reminders using a drop-down bar. At the bottom is a button to save the goal.

### To-Do List

The to-do list screen is broken up by the sections created by the user. It allows you to view the items on your to-do list, with the option of checking off the items. There is also a button to take you to the create task screen in order to add a new item to the list.

### Create Task

On this screen there is a drop down menu for task section, reminder frequency, and reminder time. There is a text field for task name and description. Then at the bottom is a button to save the task.

### Calendar

On this screen there is a calendar. If a day is shaded, then the user has at least one event on that day. There is a button to create an event.

### Create Event

When creating an event, there are text boxes to add the event name and location. There are drop-down bars to add the event date and start/end time. When adding the event date, a calendar view drops down. There is a button to save the event.

### Calendar Event

This screen is the same as “Calendar”. When you click on one of the days that has an event, it goes to this state. It shows the event name, time, and location for the events that day.

## Prototype Scenarios and Tasks

We have created two different scenarios that use the applications in different ways. The first scenario focuses on a user who has just downloaded this application. The task correlating to this scenario includes logging in, creating new to-do items and creating a new goal. The second scenario focuses on a user who has been using the app and needs to log information from the day. The tasks relating to this scenario includes checking off a to-do item, looking at upcoming calendar events on a particular day, and creating a calendar event. Participants will be presented with the following scenarios and asked to complete the corresponding tasks using the application prototype. These scenarios will prompt the users to complete the following tasks and therefore test different functionalities and flows throughout the app.

## Prototype Revisions

Our main revisions were adding the different states for each functionality. The login page includes different states to log in with a username and password then, navigating to the dashboard when clicking the “login” button. The dashboard and bottom bar for every page now navigates to the corresponding page. Our last iteration already included the option to view a specific goal and log the progress for the day; however, it did not include the states to add a new goal. Users are now able to iterate through creating a new goal with adding an icon, habit name, description and set reminders using drop down bars. For the to-do list, we added the functionality to check off a to-do item in addition to creating a new task under a specific section. Lastly, instead of adding a description when creating a new plan, we gave the users an option to add an event location. In addition to being able to add an event name, location, and time, users are able to use a calendar view drop-down to add the event date.

# Usability Test Plan | Summary and revisions

We will be conducting usability test plans of the prototype with two participants in order to collect data. In our usability test, we are measuring user effectiveness, efficiency, and likeability. We are looking at how users are able to navigate through the app and where they are finding success or failure. Through our study, we want to find any issues regarding usability in order to further improve the design for our next iteration. Our main revisions to our usability test were the edits to each task in order to be more specific to each scenario. Additionally, we added pre-interview questions to ask the participants to get a better understanding of their background.

## Research Method

Our research subjects will be pulled from our targeted demographic of busy college students and young professionals. Participants will verbally be asked for consent to document the interview prior to beginning. Our research method will be having our participants interact with our applications. We will give our participants two scenarios and two tasks to complete. Participants will first be asked for consent to document the interview and asked background questions about their lifestyle and technology background. The pre-interview questionnaire will be attached in the appendix. Participants will be asked to navigate through the scenarios and tasks while interviewers document where participants are successful and where they struggle to complete the given tasks. Interviewers will also write comments on the participants observations and thoughts and time the participant while completing each task. In addition, participants will be asked follow-up questions regarding their experience with the application. The follow-up questionnaire will be attached in the appendix.

## Usability Test Revisions

Our main revision to our usability test was adding pre-interview questions to ask the participants before beginning the tasks. Adding these pre-interview questions allows us to collect background information about the participant, relevant to our test. These questions include inquiring about the participants' lifestyle, the kinds of commitments they partake in, what devices they own and use, in addition to what their current methods of keeping organized are. Additionally, the tasks for each scenario have been clarified in order to be more specific. Interviewers are now asked to time the user completing the tasks for each scenario. The post-interview questions have not changed.

# Usability Test

## Research Subjects

We will be recruiting two participants for our usability test. Our target research participants correlate to our target audience which include college students and young working professionals who have a busy life with various commitments to juggle.

## Consent Method

Before beginning the usability test, interviewers will explain the intended purpose of our application and what the study will entail. We will explain that participants will be asked to complete tasks and answer follow-up questions regarding their experience interacting with the application. Participants do not need to answer all questions and may conclude the study at any point. Interviewers will get verbal consent from the participant to document the test and interview.

## Recording Method

Usability tests may be conducted in-person or remotely through video call. Video or audio recordings will be up to the discretion of the interviewer. Interviewers will time the participant on completing the tasks for each scenario. During the usability test, interviewers will observe and document the participants of their interactions with the applications but will not verbally or physically interfere with the study. Interviewers will then ask the pre-determine follow-up questions and take detailed notes of participant’s responses. Detailed notes of each interview will be attached in the appendix.

## Background Pre-Interview Questions

Participants will be asked the following questions in order to gain understanding of the user's background. This will allow the interviewer to ask for consent to document the interview.

1. Do you consent to having this interview documented?
2. Interviewee Name?
3. Interview Date?
4. Interview Medium?
5. Tell us about your lifestyle? (very busy, normally busy, have free time, etc)
6. What kind of commitments do you participate in? (class, work, volunteer, sports, etc)
7. What devices do you have?
8. What are your current methods of keeping organized (ex/planner, notes app, google calendar, sticky notes, etc)?

## Observations

### Participant 1

Participant 1 is a 19 year old female who is a second-year computer science student at Oregon State University. She lives a normally busy lifestyle, juggling many commitments such as classes, sorority events, and volunteering. This participant has a laptop and a phone while using a planner and notes app to keep track of everything.

### Participant 2

Participant 2 is a 22 year old male who is a fourth year finance student at Oregon State University. He lives a very busy life, with many classes, trips, appointments, and scheduled events.They are always on the go and lead a healthy lifestyle, going to the gym everyday. The participant uses apps on their phone, smart watch, and desktop computer to track their activities.

## Scenarios and Tasks

The following scenarios and corresponding tasks will be presented to the participant. Participants will be asked to complete each task to the best of their ability.

### Scenario 1

“You are a senior college student that needs help keeping track of various commitments. You have downloaded this application in hopes to organize different to-do items in order to create more tangible step-by-step goals.”

### Task 1

* Log-in
* Create a new goal to Read for 30 minutes and set reminders for every day at 12pm
* Create a to-do item under the “Personal” section to Grocery and set reminder for every day at 12pm

### Scenario 2

“You just got home from a long, busy day of classes, work, practice, in addition to running errands. You open the application to log your habits for the day, check off completed to-do items, and look at what is on the schedule for tomorrow (November 1).”

### Task 2

* Check off a to-do item of “Unit 2 Notes”
* Look at your scheduled events for November 1
* Create a calendar event for “Practice” at “Reser Stadium” on November 1 from 5-7pm

## Observations

### Participant 1

Participant 1 took 2 minutes and 22 seconds to read and complete the first scenario and task. She took 1 minute and 44 seconds to read and complete the second scenario and task. This participant was able to successfully complete all of the listed tasks with minimal problems. From observation, the main issue was clicking the wrong part of the buttons (on the words rather than the arrows) to navigate to the next screen. After completing the first scenario’s tasks, the participant was able to more quickly navigate through the next set of tasks.

### Participant 2

Participant 2 took 1 minute and 54 seconds to complete the first task. Then they took 59 seconds to complete the second task. As an observer I noticed that they tried to skip some fields and were forced to complete a field before moving on. Also they would try to click a part of a button that was non clickable.

## Follow-up Questions

Participants will be asked the following questions after completing the tasks for each scenario.

1. What were your first impressions when seeing/using the prototype?
2. Difficulty level for each task
3. How enjoyable was it to complete each task
4. Were you able to complete each task? Were they easy to follow or did you have any problems?
5. How long did it take to complete the tasks?
6. Were there any parts that were unclear?
7. What features did you like the most? The least?
8. Suggestions for improvement?
9. How likely are you to use this application?
10. What would you rate this app?
11. Why did you give this rating?

## Observations

### Participant 1

From the follow-up questions, this user gave the app a five star rating and said the app was easy and enjoyable to use. After a short amount of time, Participant 1 was able to gain familiarity with the app as they mentioned it was easy to follow. Based on the feedback, we understand that the app could still be more customizable and may need more pages to include more details without being overwhelming. However, the application is something Participant 1 would use due to being able to combine different apps such as notes and habit tracker, into one.

### Participant 2

His first impression was that it “worked well”. He rated it a 1 out of 5 (1 being easy) difficulty level for the first task. He rated the second task a 1 out of 5 as well. The first task was a 5 out of 5 (5 being enjoyable). He gave the second task a 4 out of 5 for enjoyment. Yes, he was able to complete each task. No problems he said, although as the observer I noticed he tried to click a part of the button that was not clickable. First task took 1 minute and 54 seconds. Second task took 59 seconds. No parts that were unclear. He liked the part of checking things off. He did not like how the “calendar was weird”. He suggests a little celebration of sorts when you finish an activity. He would use this app, 5/5 likeliness. He rates the app a 4.9 out of 5. He gave the rating because it is “almost perfect”.

# Heuristic Evaluation Plan | Summary and revisions

# Recap

We conducted a heuristic evaluation on Carpe Diem to identify any usability issues in the interface and system. Two members of our group, Hannah Maung and Kayla Hunter, were chosen as the experts of the team to conduct the heuristic evaluations. These two were chosen partially because we ended up using Abigail’s prototype to build off of. Having Hannah and Kayla perform the evaluation would offer the most unbiased review from the team. Hannah and Kayla separately scored the design against each heuristic using the 0-4 definitions provided in Module 6. Each person will include why they scored it as such and will document examples of where the design either does well or poorly against the heuristic. If the 2 have disagreeing scores, they will reference the details. In the end, we created a ranked list in priority order of what needs to be fixed first for the team to work off of.

# Heuristic Evaluation Revisions

We did not have many revisions for our heuristic evaluation, as we received good feedback on our original heuristic evaluation plan in Module 6. We decided to follow our original plan to separately score the design against each heuristic using the 0-4 scale, and come together to create a ranked list to prioritize specific heuristics. Kayla and Hannah also confirmed they would review all tasks and screens currently present in the prototype rather than hone in on a specific workflow.

# Heuristic Evaluation

Hannah and Kayla based their heuristic evaluation on Jakob Nielson’s 10 universal design principles. They walked through the app independently, creating goals and tasks, while checking the calendar, to-do list, and goal progress. They scored the design against each heuristic on a scale of 0-4, 0 meaning that it is not a usability problem at all and 4 meaning that it’s imperative we fix the issue as soon as possible. For each heuristic, they explained their reasoning behind their ranking. After they individually completed their heuristic evaluation, they combined their heuristic evaluations into a single ranked list and included design recommendations based on the feedback. The following includes the heuristics that the experts used to review Carpe Diem’s interface and how they evaluated each one:

### #1 Visibility of system status

This heuristic evaluation describes how users should always know the current system status. When our experts are reviewing Carpe Diem, they will assess if the app communicates clearly what state the system is at and if there is any slight confusion. They will make sure the app presents feedback to the user immediately and communicates openly.

### #2: Match between system and the real world

This heuristic evaluation describes how the design should speak the users’ language. All words and phrases used should be familiar to the user so there is no confusion. When Hannah and Kayla are reviewing our app, they will ensure that phrases and words used on the app aren't open to interpretation to each user and have a conventional meaning. They will conduct user research on users’ familiar terminology and find the true meaning of words that will match the users.

### #3: User control and freedom

This heuristic evaluation describes how there should always be a clear exit or undo button for the user. We do not want our users to accidentally do an action and have no way of knowing how to undo their mistake. This will cause a lot of confusion and disorientation for our users. When our experts are reviewing our app’s design, they will navigate through the app like a user and click on different actions. They will note if there is or not a clear way to exit the current interaction.

### #4: Consistency and standards

This heuristic evaluation is all about making sure that our app’s actions, features, and phrases are very clear to users and there is no second guessing behind any meaning. It is extremely important to maintain consistency throughout your app in order to avoid any confusion. In addition, inconsistency can increase the users’ cognitive load, which is the opposite of what we want. Hannah and Kayla plan to navigate through our application and double check that we maintained consistency. In addition, they plan to research established industry conventions beforehand to have a sense of valid standards and consistency within an application.

### # 5: Error prevention

This heuristic evaluation is really important because it describes how to prevent errors and clearly disclose an error effectively to the user. Our app should have a clear statement as to why the error has happened, a resolution or help menu, and a suggestion to prevent this error from happening again in the future. Our experts plan to make sure that when they come across an error within the app, there is a clear message that explains all the essential things. In addition, they will note what is causing the error because our developers should try and prevent these errors by warning users or removing memory burdens.

### # 6: Recognition rather than recall

The evaluators will look at any instance where the user is viewing or creating data and assess what might be running through the person’s head while on the screen. For example, when they are entering a new task is it important to know the current date or whether or not there’s an existing task with a similar name.

### # 7: Flexibility and efficiency of use

Since the app must serve novice and experienced users, the evaluators will put themselves in both positions. The aspects to consider will be: how many clicks does it take an experienced person to perform a critical function? Conversely, how would a first-time-user’s experience unfold?

### # 8: Aesthetic and minimalist design

Everyone at some point has felt overwhelmed by the amount of information on a page. Keeping the design minimal and only surfacing what is important is crucial for good design. As well as design consistency and a color scheme that is appealing to the eye. The assessors will review the designs and consider both scenarios: what if a person had 0 tasks or goals, and what if they had 50 tasks or goals? Does the design maintain minimalism while conveying important information in both scenarios?

### # 9: Help users recognize, diagnose, and recover from errors

To assess this heuristic, the evaluators will think through their own experience with task management applications. What are some errors they have encountered in the past? Is it possible a person might make a similar error here? Important checkpoints are any time a person is creating, updating, or deleting data.

### # 10: Help and documentation

This is an important aspect because the design must service people who learn in a variety of ways. To successfully evaluate this heuristic, the assessors will check for all learning types and levels. Would a person that has never used a task manager app before know how to use this? Would a person that prefers to learn things side-by-side against a help article have the ability to do so?

## Recording Usability Problem Instances

| **Heuristic name** | **Score** | **Details** |
| --- | --- | --- |
| Name | 0-4 | Justify the score and give examples of the what works or is wrong with the design |

Tab. 1. Heuristic analysis.

# Evaluation Results

## Usability Test Results

After conducting the usability tests, our team was able to identify a few usability issues. While we did not run into any critical issues, we determined the following issues affected the effectiveness of the app.

The first issue was participants had to re-click certain buttons multiple times. For example, on the dashboard, participants defaulted to clicking the words (ex//“GOALS” or “PROGRESS”) rather than the arrow or corresponding icon. After clicking the words, users realized the application was not navigating to the next screen and tried clicking a different part of the button. While this is not a severe issue, users continued to default to clicking the words and having to re-click.

The second issue that we determined in our usability test as well as previous feedback is overcrowding on pages. By trying to include more functionalities, it makes features and buttons smaller. In this iteration, we tested not displaying the calendar events until users clicked the specific date on the calendar. Our participants noted that it would be beneficial to have a day-to-day view of upcoming events since this current method only allows users to see one day at a time. Additionally, participants express wanting more options for customization to allow more details. For example, our calendar events only allow options to add the event name, date, location, and start/end time.

The third issue was that while observing one of the participants, we noticed that they were trying to fill out a text field and were blocked from doing so until they added an icon above. The add icon button was highlighted when they clicked the text field, however it took them a little while to realize this. It could be made better by allowing the user to skip over options that they do not desire to do. Or make it more clear that they need to put input in for a certain field.

## Heuristic Evaluation Results

After reviewing the prototypes against all heuristics, Hannah and Kayla identified 1 critical issue, 3 minor issues, and 1 cosmetic issue. They found no issues according to 3 of the heuristics. Overall the prototype does well aesthetically and pulls from common design patterns to lower the ramp time for most users.

The most severe issue was with “User control and freedom.” When creating goals and tasks there is no cancel / undo button. This prevents users from being able to back out of the task. Similarly, after creating a goal or task there is no option to remove or delete it. So any typos or mistakes become permanent which is a very frustrating experience for any user regardless of their experience level.

The second pain point according to the heuristics evaluation was with “Help and documentation.” Hannah and Kayla both agreed that there is an overall lack of help and informational touchpoints. There isn’t any proactive help such as a guided experience for novice users and there aren’t any help icons or tooltips to offer contextual clarification.

The final pain point, while not critical, could use some improvement and relates to “Error prevention.” The app is straightforward so users will not often find themselves encountering issues. However, the prototype currently does not demonstrate any error states. So creating a design pattern would be useful to demonstrate.

# Insights / Design Recommendations

## Usability Test Recommendations

Based on findings from the Usability Test, we recommend the following changes:

1. Create a larger clicking area for buttons and functionalities.
   1. For the calendar view, use more of the empty space by making the numbers and circles bigger. This will make it easier for users to tap on the correct button to navigate to the intended screen.
   2. Add the clicking area on each button to not only the arrows, but the icons and the words as well.
2. Add a more detailed calendar
   1. Rather than having to click on each individual date in order to see the upcoming events, have a day-to-day view that lists all events.
   2. Allow users to click on a specific event to see more information.
3. Allow the user to bypass certain fields.
   1. Instead of being forced to fill out every option, the user should be able to skip fields. Say if they do not want to add an icon.
   2. Making it more clear which fields are required. Also letting the user fill out the fields in any order that they wish.

## Heuristic Evaluation Recommendations

Based on findings from the heuristic evaluation, we recommend the following changes:

1. Include an option to delete a task and either remove or archive a goal.
   1. When deleting a task, swiping left on the task should expose a red “X” button.
   2. If you swipe left on a goal, it will reveal a red “X” to delete the goal from the goal list.
   3. For goals, there should be a confirmation dialogue asking the user to confirm that they intended to remove the goal. We do this for goals and not tasks because it is less common for people to fluctuate their list of goals whereas tasks are always being moved around.
2. Create a walk-through experience that gives guidance to brand new users.
   1. Add screen to create a new account
   2. After logging in for the first time, provide a “walk-me” experience that points out main parts of the app.
   3. Explain each icon on the lower menu bar and what they can do in those screens
   4. Add a link under the hamburger menu for “Help center” where someone would find an extensive knowledge base.
3. Include error states throughout the app.
   1. Warn the user when double-booking a time-slot on their calendar.
   2. If a user enters an incorrect password, let them know. Include a link to reset their password.

# Appendix

## Figma Prototype

<https://www.figma.com/proto/MTyXdKqDHornhd86U0qzMb/Design-Gallery-Concept?node-id=123%3A79&scaling=scale-down&page-id=0%3A1>

## Heuristic Evaluation

Combined, ranked list of heuristic evaluations from Hannah and Kayla: <https://docs.google.com/document/d/1H6grgu76P2D70hBhMO_-S38th3WbLVzUJLjgK0nDYT4/edit?usp=sharing>

## Usability Test

<https://drive.google.com/drive/folders/1YqqY83olSRf9JQy3LZKIptVJKWL82t_N?usp=sharing>