



# Allocate

A day-scheduling app prototype

*ux design* – Wilson Christensen, June 2020

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## PROJECT: CALCULATOR APP

Task: design the interface for a specialized calculator app that works on a smart phone.

The app needs to be designed with the user in mind. It should be shaped through testing until the most user-friendly version is found.



## DESIGNER: WILSON CHRISTENSEN

*Web Designer – Photographer – Creative Specialist*

# Discover

This section shows a summary of research, brainstorming, and sketches. This is where ideas are born.

## INSPIRATION

There are not as many useful apps for the Apple Watch as I thought there should be. It is a newer hardware that is very innovative. But it seems like developers are struggling to fill its potential on the software side. So I came up with my own idea for something the watch could do to make our lives easier.

My app will be for time-keeping and scheduling activities. This unique watch-face will allow the user to see how much time they spend doing specific things throughout their day. They can use it to plan their day, and review their own time-management skills after they day is over.



Apple Watch - Series 5

# Research

## HARDWARE

Since this app will be a feature for the watch, existing watch features needed to be carefully studied. Potential capabilities not currently available in the software will also be explored.

iPhone companion apps are common for adjusting or viewing the watch's functions. Similar scheduling apps for the iPhone will also be studied.

## APPLE'S APPS

My app concept has the potential of being a built-in Apple made feature. So, it makes the most sense to look at existing Apple apps for reference. I was able to gain a lot of insight from them. I focused on the affordances provided by the hardware and software, and the conventions that streamline the process of scheduling events.

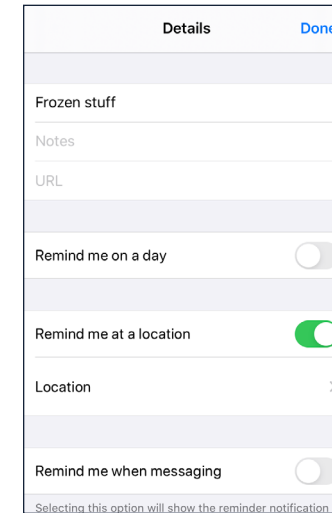
I specifically studied the Reminders app, and Calender Events, along with the Solar Dial face and Gradient face on the watch.



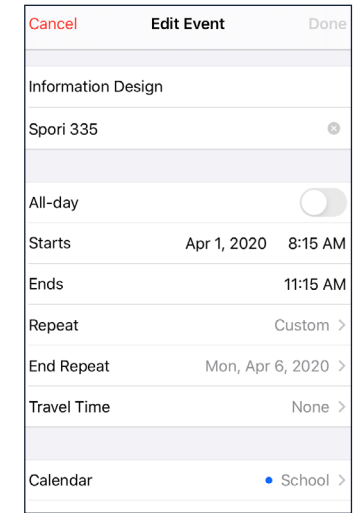
Solar watch-face



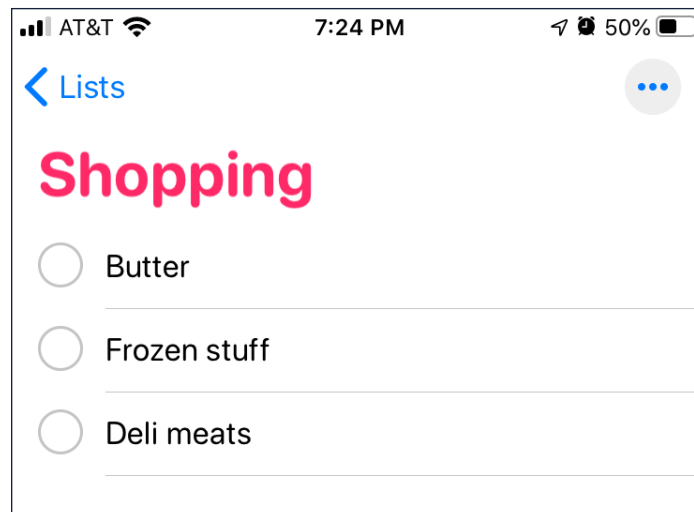
Solar watch-face in action



Editing a reminder



Editing a calendar event



The Reminders app

Dec	16	17	18	19
	Monday	Tuesday	Wednesday	Thursday
8 AM				
9 AM				
10 AM		COMM 315 SPO 107		COMM 315 SPO 107
11 AM	FDSCI 206 ROM 172		FDSCI 206 ROM 172	
Noon	FDHUM 214 RKS 127		FDHUM 214 RKS 127	
1 PM				
2 PM	COMM 310 SPO 107			
3 PM				
4 PM				
5 PM				

Calendar events visualized

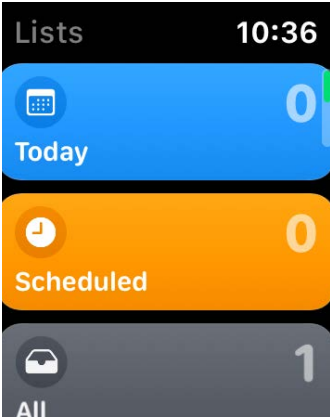
# Research (Continued)



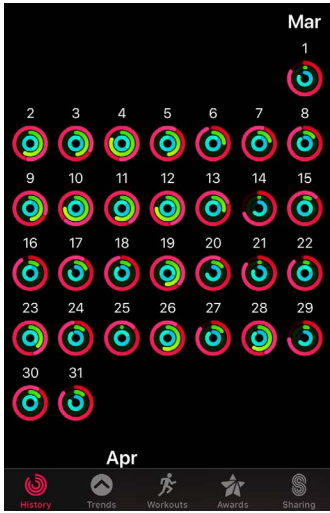
Angular gradient/timer widget



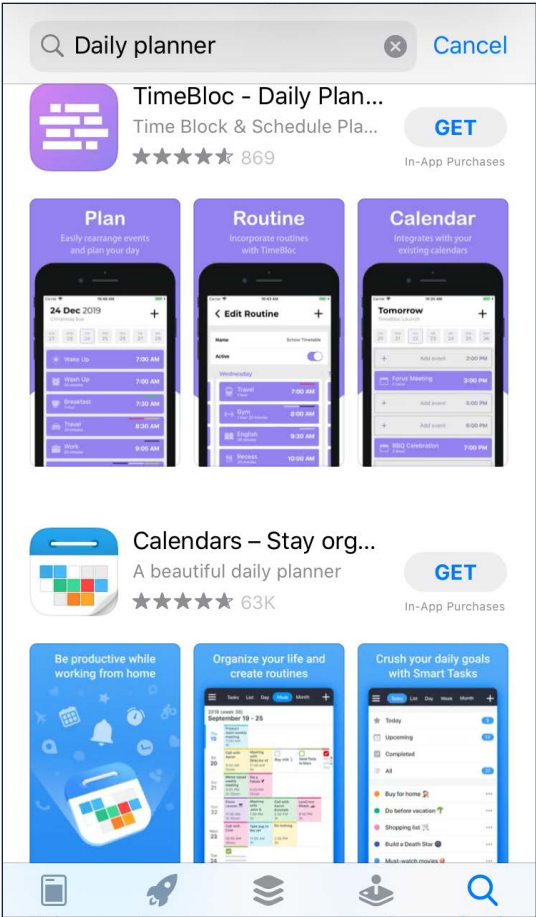
Widget perimeters



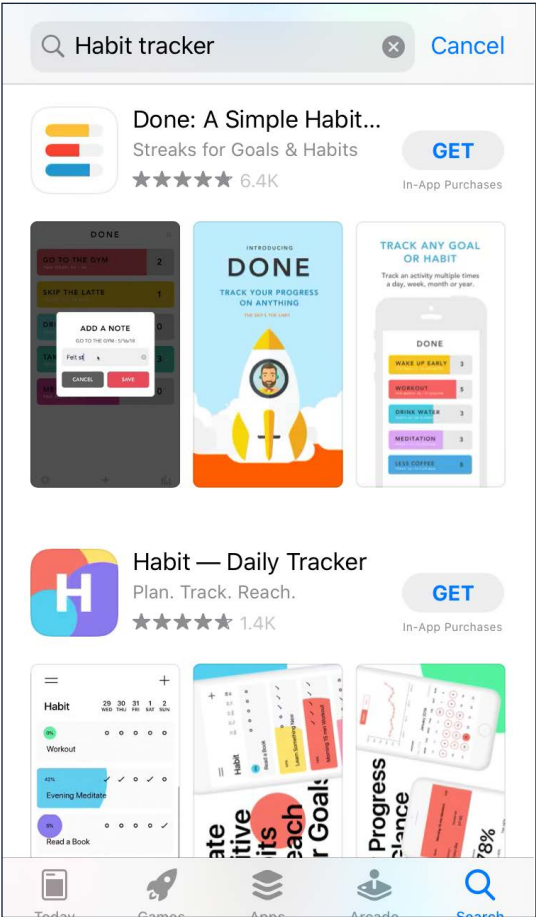
Watch scrolling list



Activity history app



Similar app examples

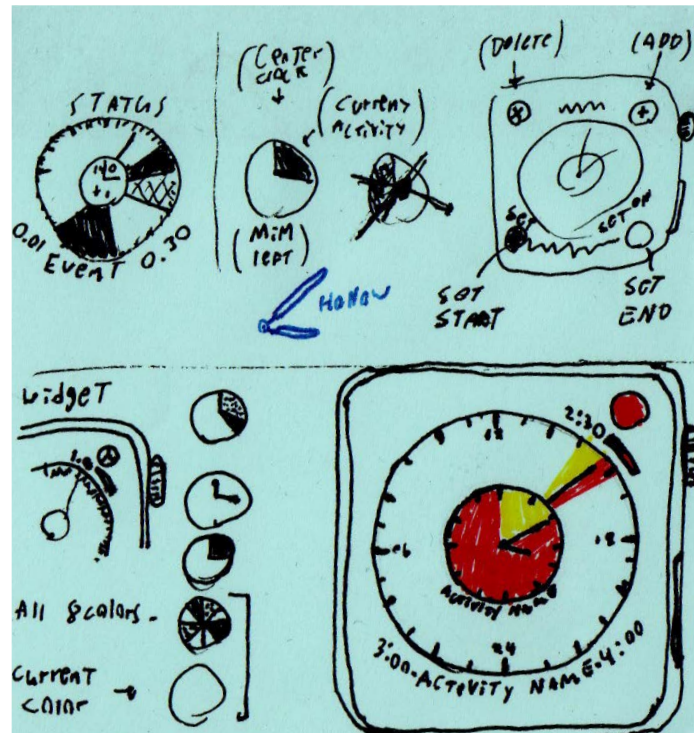


Similar app examples

# Sketches

## WATCH FACE

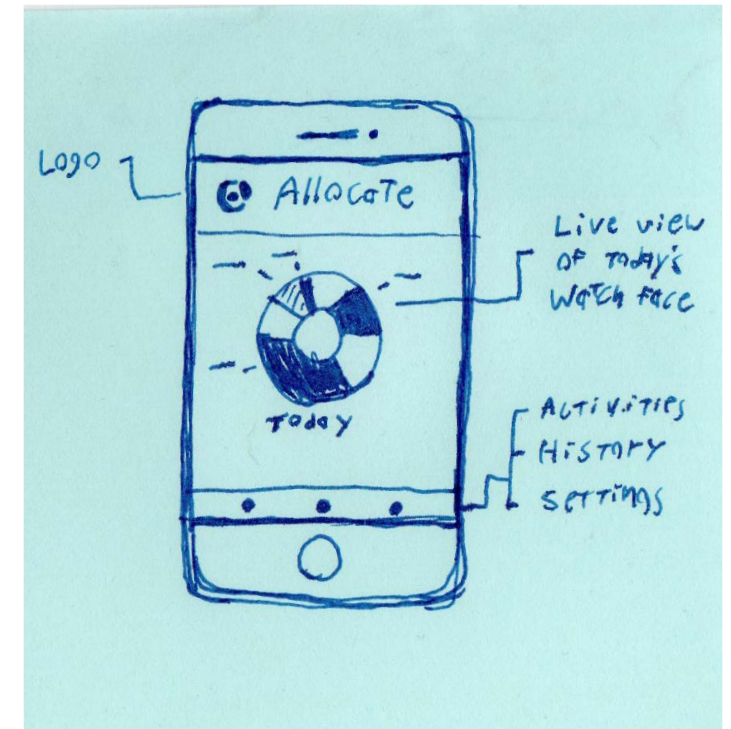
I drew little ideas on how the app would look and function. I spent a long time thinking and planning things out in my head. It really helps to put them onto paper in many ways. I was able to see flaws in my original ideas once they were drawn out, so, I could fix them before they made it into digital versions.



Sketches for the watch-face concept

## IPHONE

I knew the iPhone portion would be very simple, so, I wasn't too worried about the direction in the beginning. Adjustments would be really easy to make along the way. The important things to think about were going to be style and layout.



Sketch for the iPhone app concept

# Determine

This section goes over the most crucial step in ux design: Testing prototype usability, making observations, and gathering feedback.

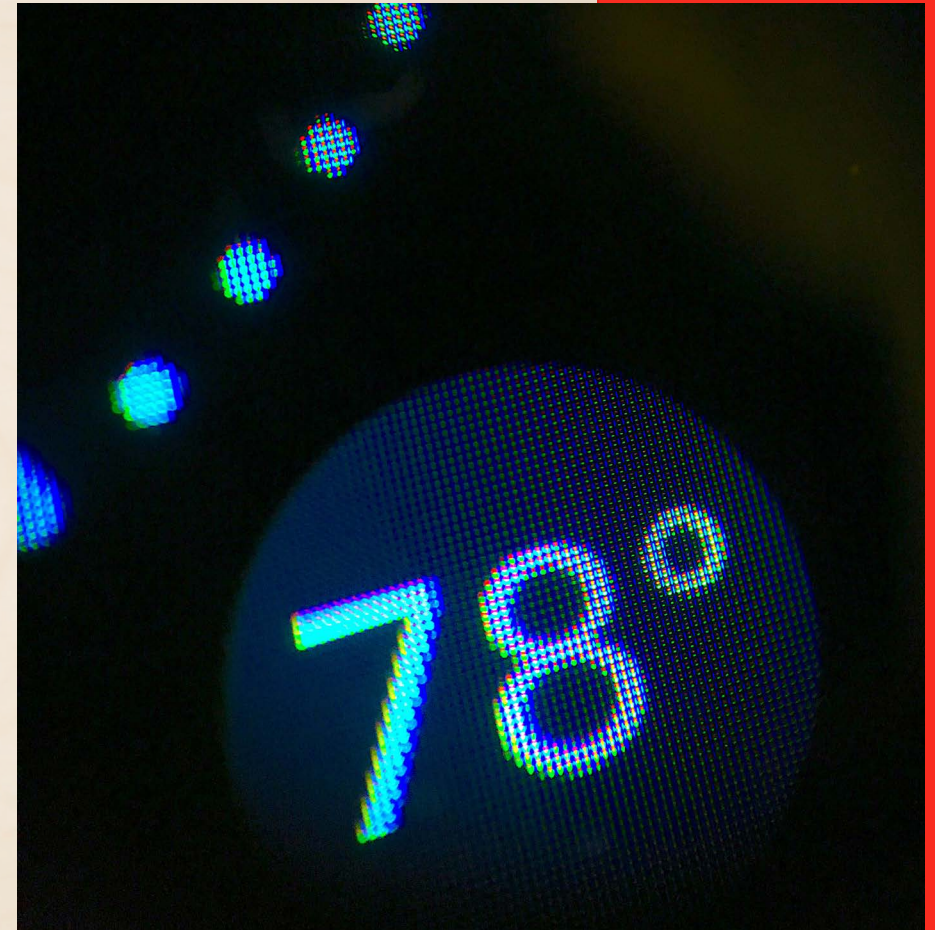
## USABILITY TESTS

The first two rounds of testing were done on sketched prototypes on sticky notes. The user was asked to interact with it as if it was an electronic display and explain their reasoning as they worked to accomplish the task. A brief scenario and background is explained to them before they begin.

The second two rounds of testing were done with refined designs on an interactive simulation using the software: Figma.

Each round involved three to four different users. User ages varying from 20-50; male and female. All of them are potential consumers of the end-product.

I made adjustments to the designs based on the findings between tests. This allowed the design to become more user friendly and efficient at a rapid pace.



Macro photo of a watch widget showing temperature

# Sketch Usability Test (1)

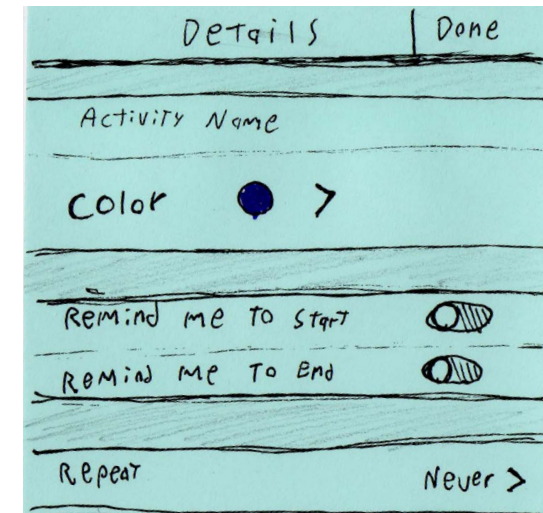
## IPHONE: ADD NEW ACTIVITY

I explain the background of the app and following scenario to the test user before beginning. Then I ask them to tap on the paper prototypes as if they were using it as a real app, and to share their thought-process along the way.

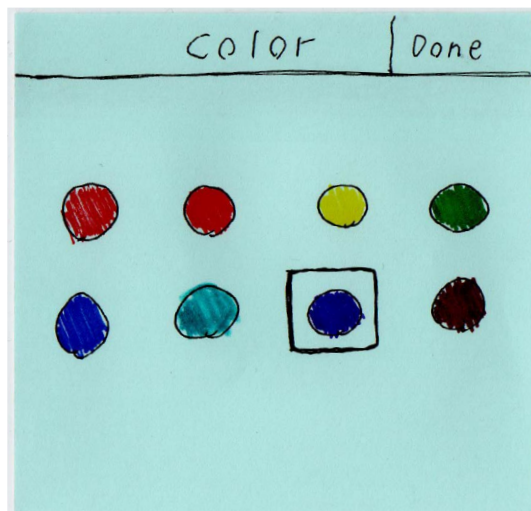
**Scenario:** You have downloaded this new app that works with the watch to schedule your day. You want to add a new activity to your list called "Exercise", make it yellow, and set it to remind you to start.



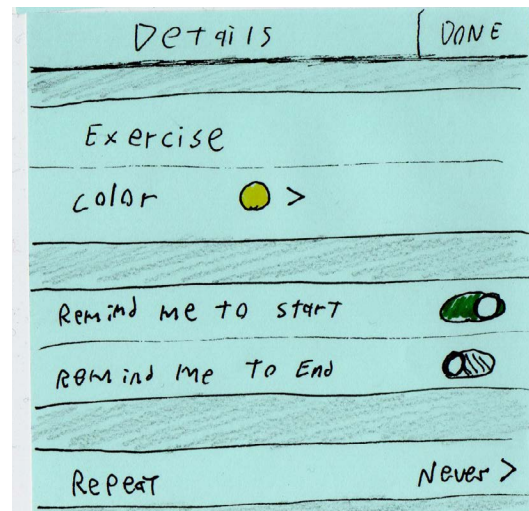
Frame 1



Frame 2



Frame 3



Frame 4



Frame 5



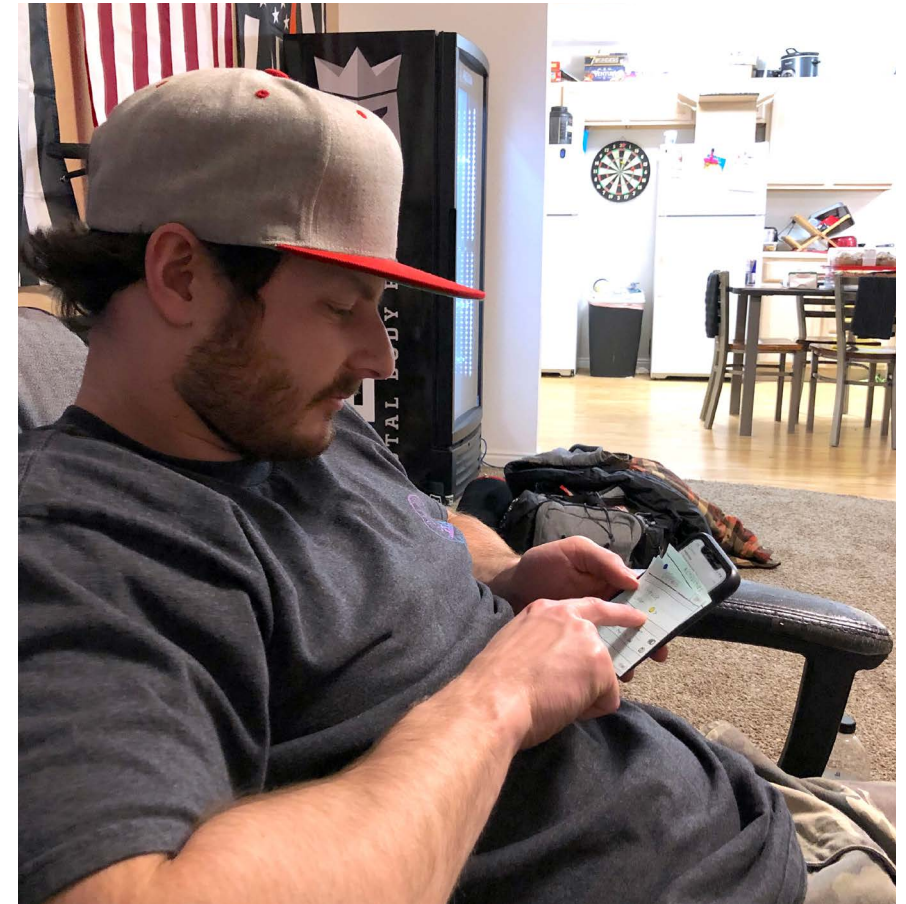
# Results (1)

## SIMPLIFY

The first thing everyone wanted to do was change the color to yellow, not change the name to exercise, even though the name field is at the very top.

Users did not like that they had to hit done after choosing the color. So the color selection should be an overlay that closes once the desired color is tapped. A user also looked for a spot to set the activity time and assumed it would be under the repeat option. This should be changed to a schedule option followed with a “one time today” option and a repeating option.

It will be important to the users that this application is quick and simple. Good simplicity will increase learnability.



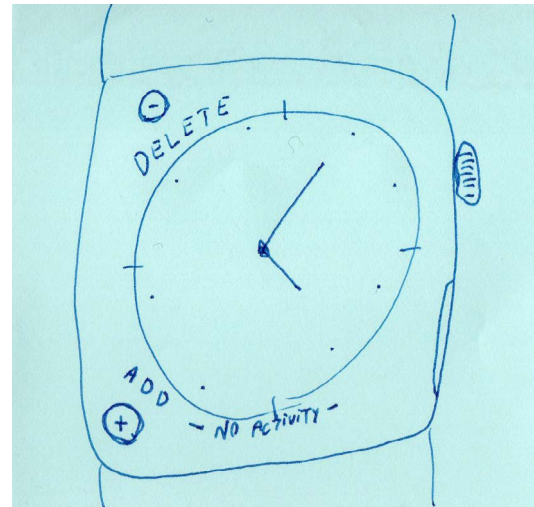
Taylor, a college student with a very active lifestyle, interacting with the paper prototype

# Sketch Usability Test (2)

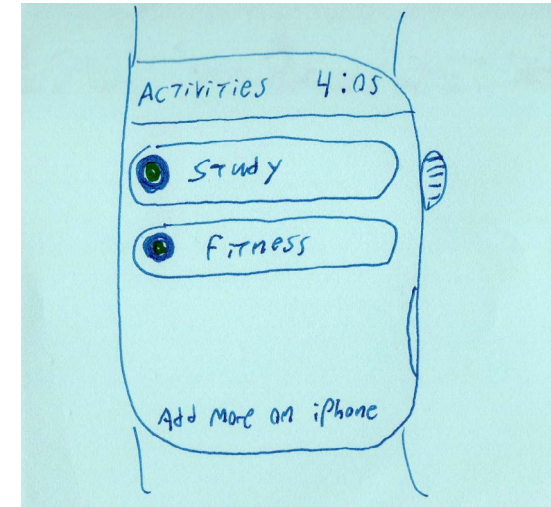
## WATCH: SET ACTIVITY TIME

I explain the background of the app and following scenario to the test user before beginning. Then I ask them to tap on the paper prototypes as if they were using it as a real app, and to share their thought-process along the way.

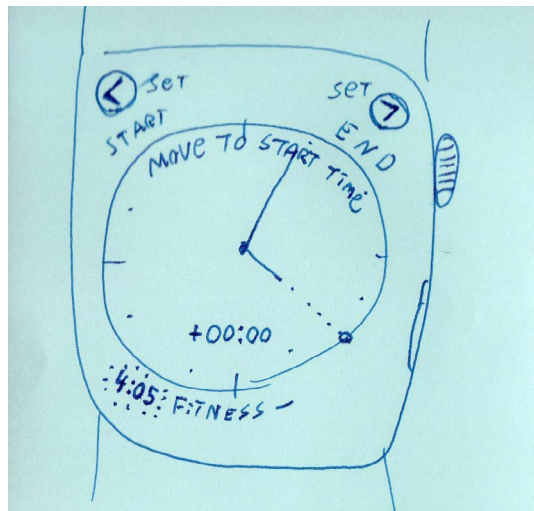
**Scenario:** You want to try out this new scheduling app for your watch. The current time is 4:05. Using the app on the Apple Watch, schedule a new “Fitness” activity for an hour starting now.



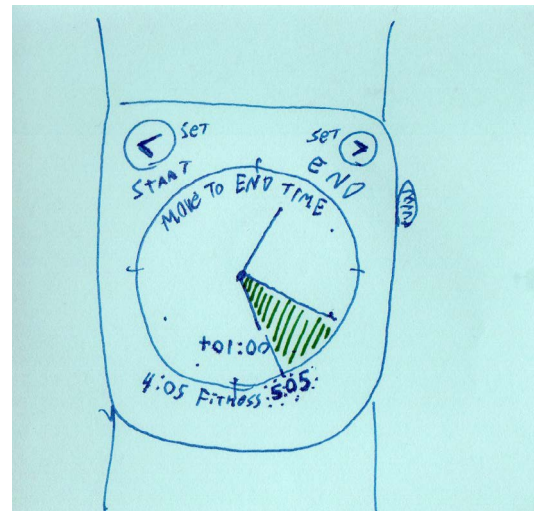
Add a new activity



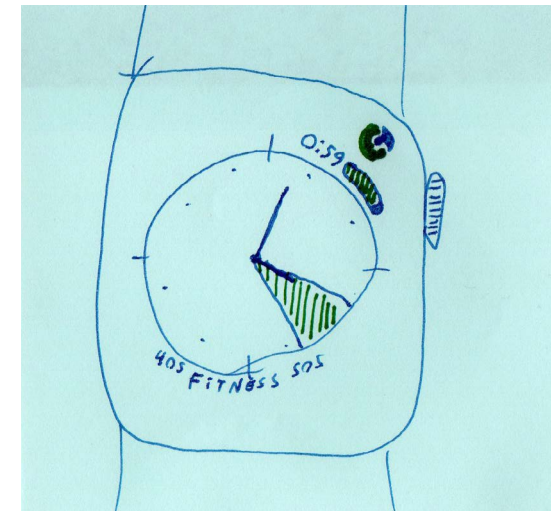
Activity selection



Set the start time of the activity



Set the end time of the activity



Objective complete

# Results (2)

## DIFFICULT TO UNDERSTAND

The users took a while to understand how they would set start and end times. It was easy to forget that the dial on the side of the watch is an input. Having “start” and “end” as options on the screen at the same time doesn’t make sense to users.

Learnability will be more difficult for users with less familiarity of setting using an Apple Watch. It is crucial to have good simplicity and efficiency to make up for this. Use the location of options to set up good mapping. (Users will gravitate to certain areas naturally when looking for their desired input). Take advantage of the common assumptions users are making.



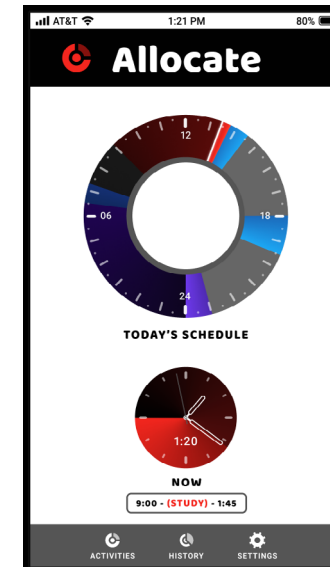
Tapping the paper watch prototype

# Interactive Usability Test (3)

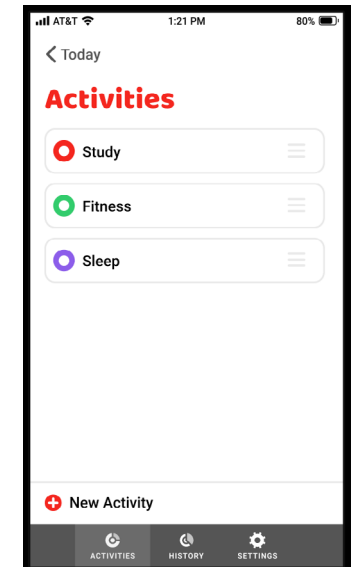
## IPHONE: SCHEDULE FITNESS

I explain the background of the app and following scenario to the test user before beginning. Then I ask them to use the digital prototype on my iPhone and to share their thought-process along the way.

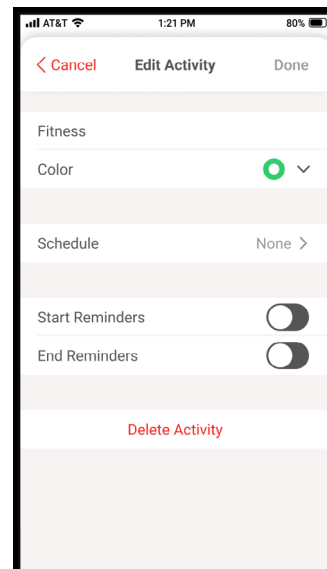
**Scenario:** You would like to schedule a fitness activity for every weekday from 7:30 to 9:00 PM. You want to be reminded each time to start.



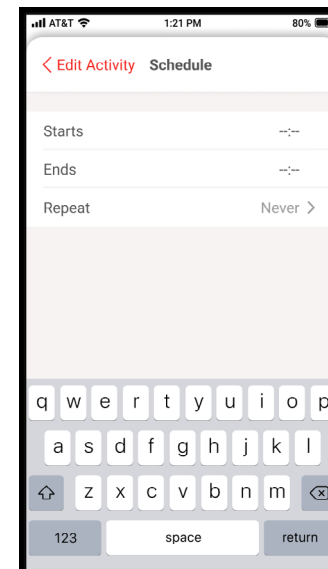
Home screen



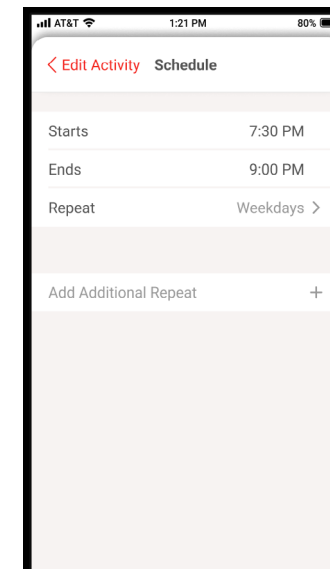
Activities list



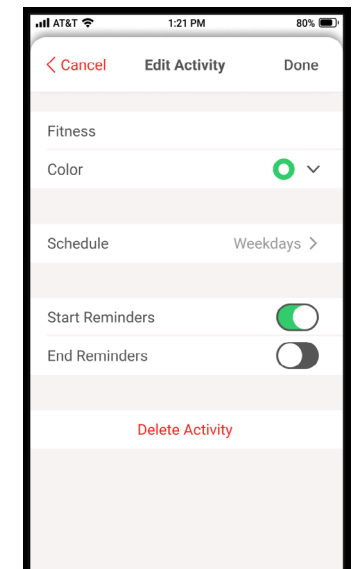
Edit "Fitness"



Add schedule



Schedule made



Set reminders

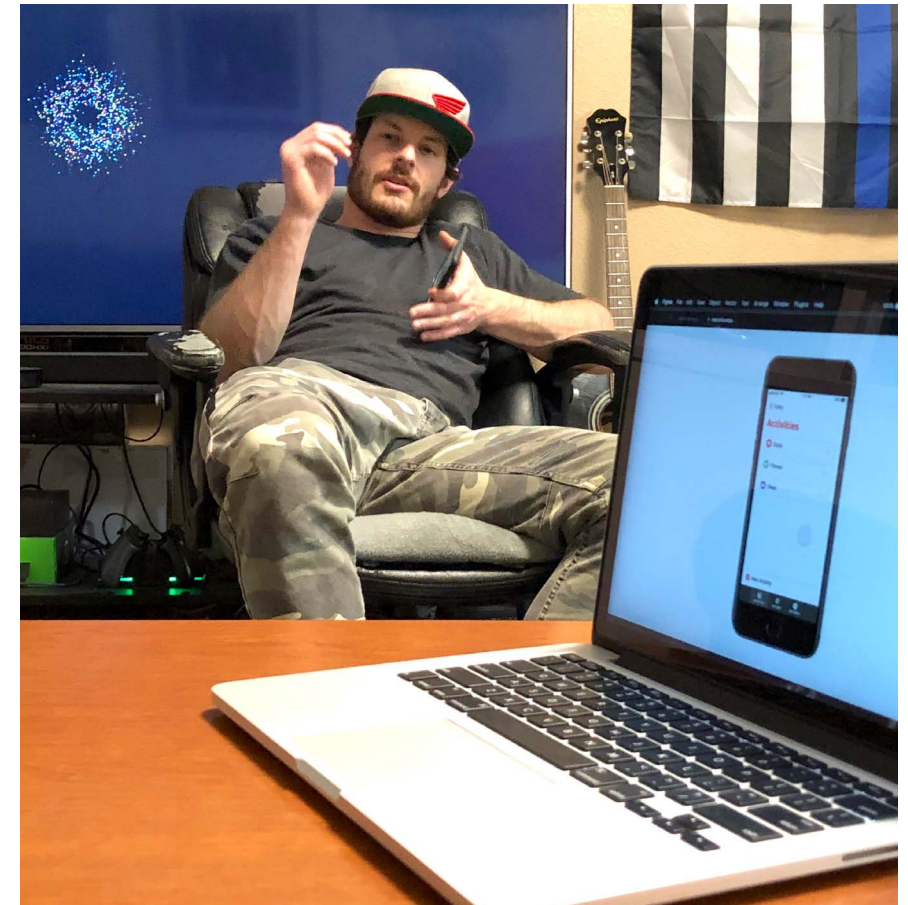
# Results (3)

## EASY AND FAMILIAR

This task was pretty straight forward. Users didn't have any trouble or confusion in completing their objective.

A keyboard was added to better simulate what was expected from a real app, even though you can't actually type on it. I labeled the button "Schedule" with a "Repeat" option at the bottom set to "never" by default. This made it clear that you can schedule the activity once manually, or have it automatically repeat. An "Add Additional Repeat" button was added to show it would be possible to schedule an activity for multiple different time slots per day.

Anyone that has made calendar events on their iPhone understood the interface instantly. Familiarity is high which makes learnability high. The user needs to see a more clear result for higher trust. Some users asked when finished, "That's it?".



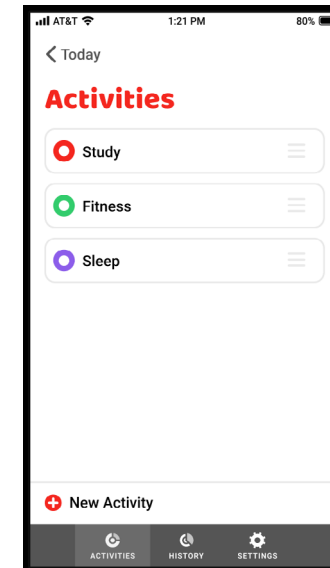
Taylor giving feedback on the prototype

# Interactive Usability Test (4)

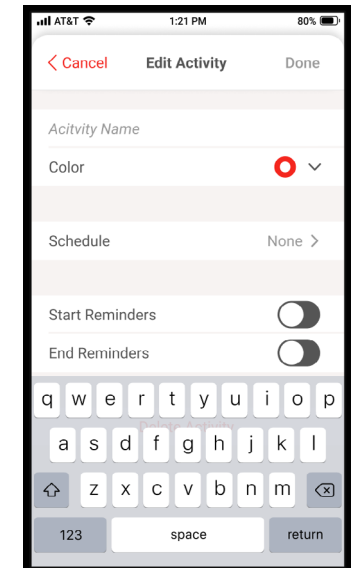
## IPHONE: CREATE NEW ACTIVITY

I explain the background of the app and following scenario to the test user before beginning. Then I ask them to use the digital prototype on my iPhone and to share their thought-process along the way.

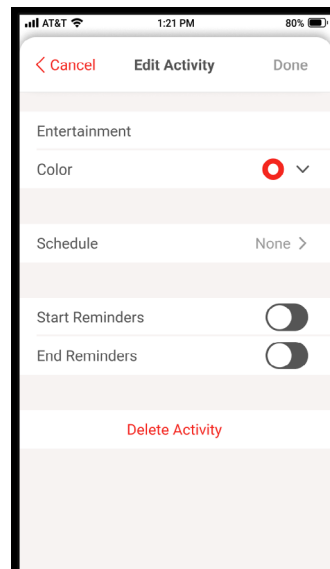
**Scenario:** You want to start keeping track of how much time you are spending playing games and watching tv. Add a new activity to the list. Name it: "Entertainment", make it yellow, and have it remind you when it is time to end.



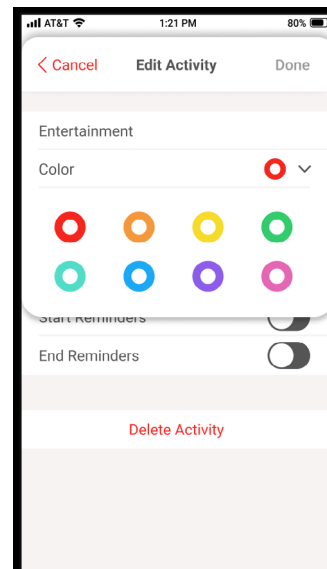
Activities list



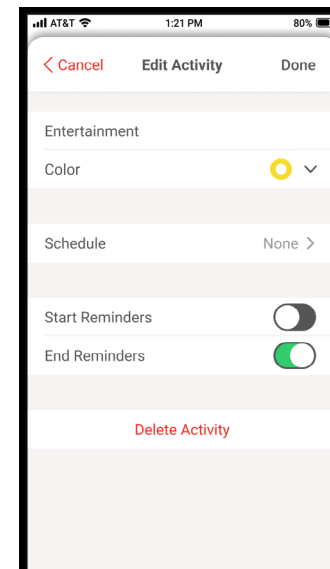
Add new activity



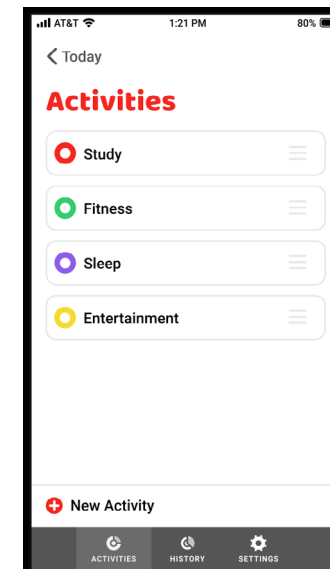
Name activity



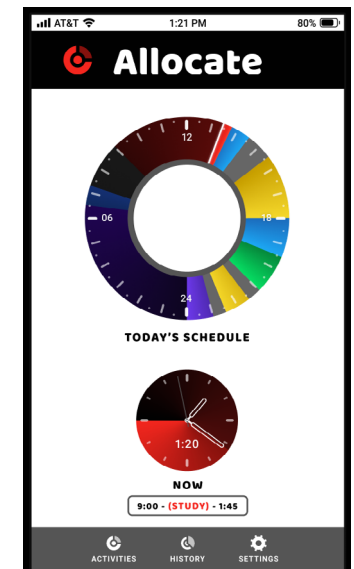
Set color



Remind to end set



New activity is now in the list



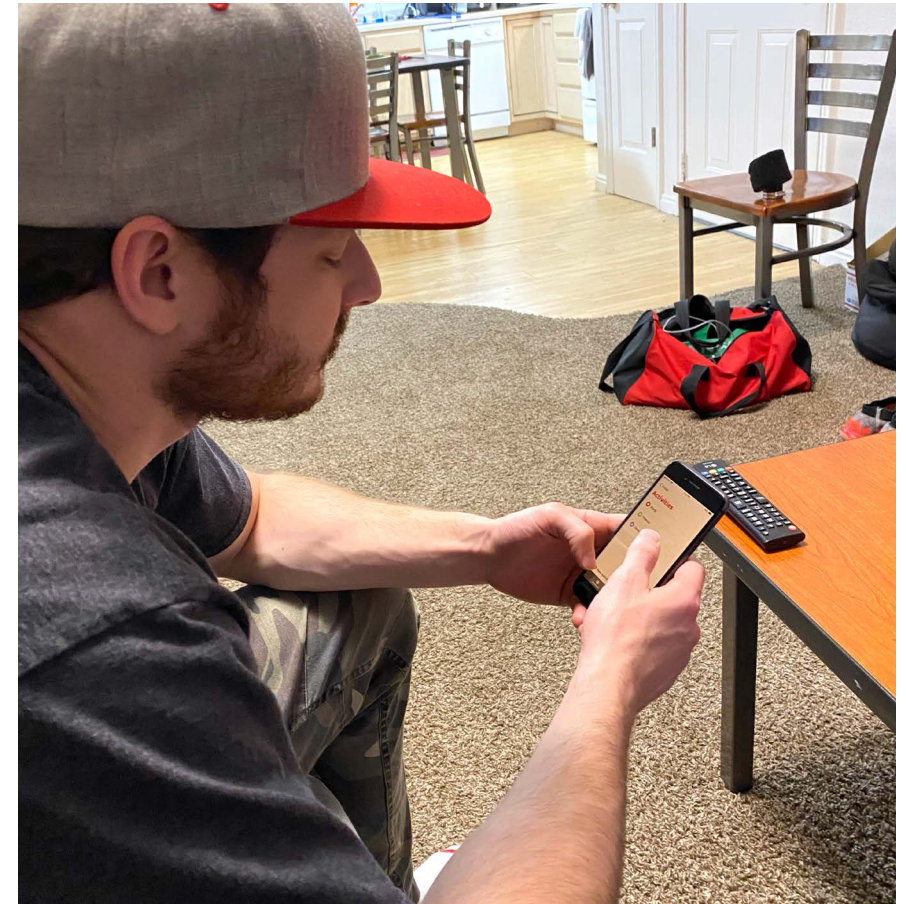
Updated home screen

# Results (4)

## CLEAR WORDING

Some users were confused by reminders. They didn't know when it would remind them since they never scheduled it. Wording was altered to help make it clear that reminders are set for any time the activity is scheduled. Some users felt more instructions or explanations would be helpful. Most users found the task to be very simple. Users will need to see how the watch portion works to have a complete understanding.

Again, very simple, familiar, and learn-able.



I found 7 test users, Taylor's just the only one I took pictures of. (iPhone prototype)

# Interactive Usability Test (5)

## WATCH: SCHEDULE ACTIVITY

I explain the background of the app and following scenario to the test user before beginning. Then I ask them to use the digital prototype on my laptop and to share their thought-process along the way. Note: the crown can't be spun in the prototype software, so I tell them to push the button next to it instead.

**Scenario:** You are in the middle of doing homework and would like to schedule the activity "Study" for 9:00 AM to 1:45 PM, on your watch.



Empty "Allocate" watch-face



Widget tapped: activity list



Study selected: set start



Dial spun back to start time



SET START tapped



Dial spun forward to end time



SET END tapped, study scheduled



(Potential full day)



# Results (5)

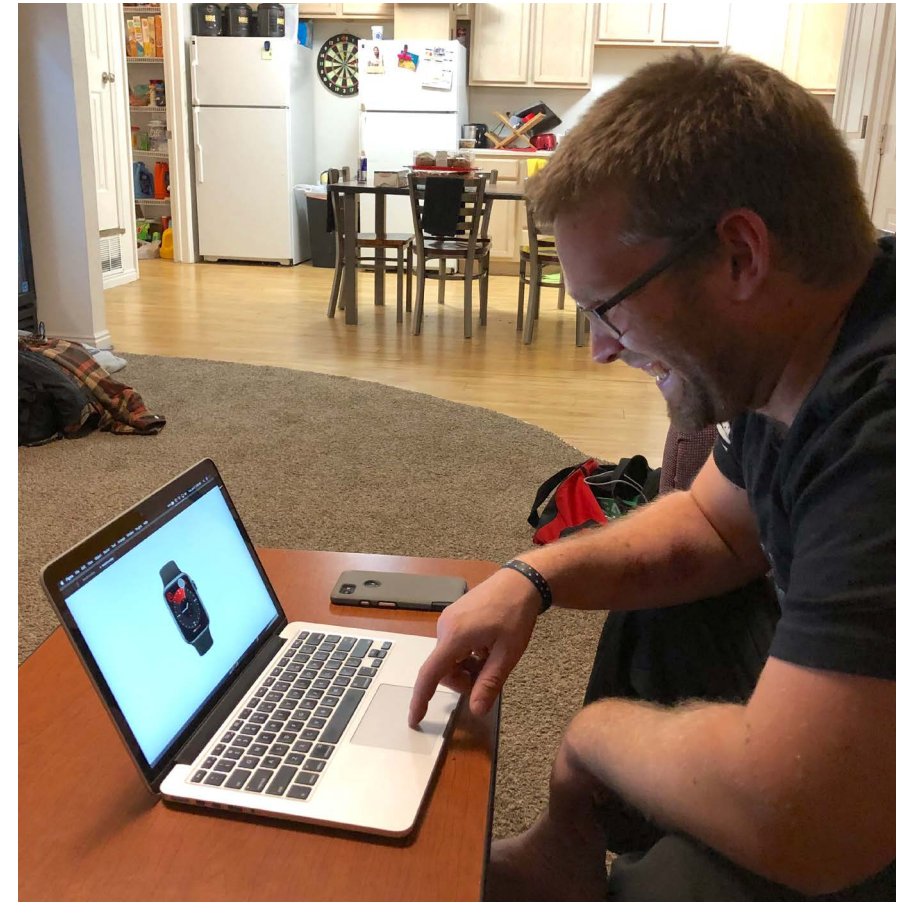
## SPINNING THE DIAL

The Digital Crown in the interactive prototype software is not a mappable button. Users were instructed to press the red widget in the corner instead when they wished to spin the dial. The limitations of the software made it more difficult to see how the dial needed to be used to turn the watch-hands to the desired time. Some transition animations helped fill in the gaps for users.

One user hesitated when it was time to set the start time. They failed to understand they needed to move the watch-hands to the desired time first before pressing the “set start” button. **They suggested that having things blinking would make it more obvious that it needs to move. I was able to simulate blinking and the results were very effective.** Users hesitated much less after the change.

Users would likely understand the final face much more clearly if it was in motion. Some users were not sure why some colors were dull/dark and some were bright. They understood after it was explained that the past became dark while the remaining portion of the day stayed bright.

The design is very efficient. The task could be completed quickly. Familiarity with 24-hour clocks is low. Learnability takes some effort. A fully functional version of the app should be tested next.



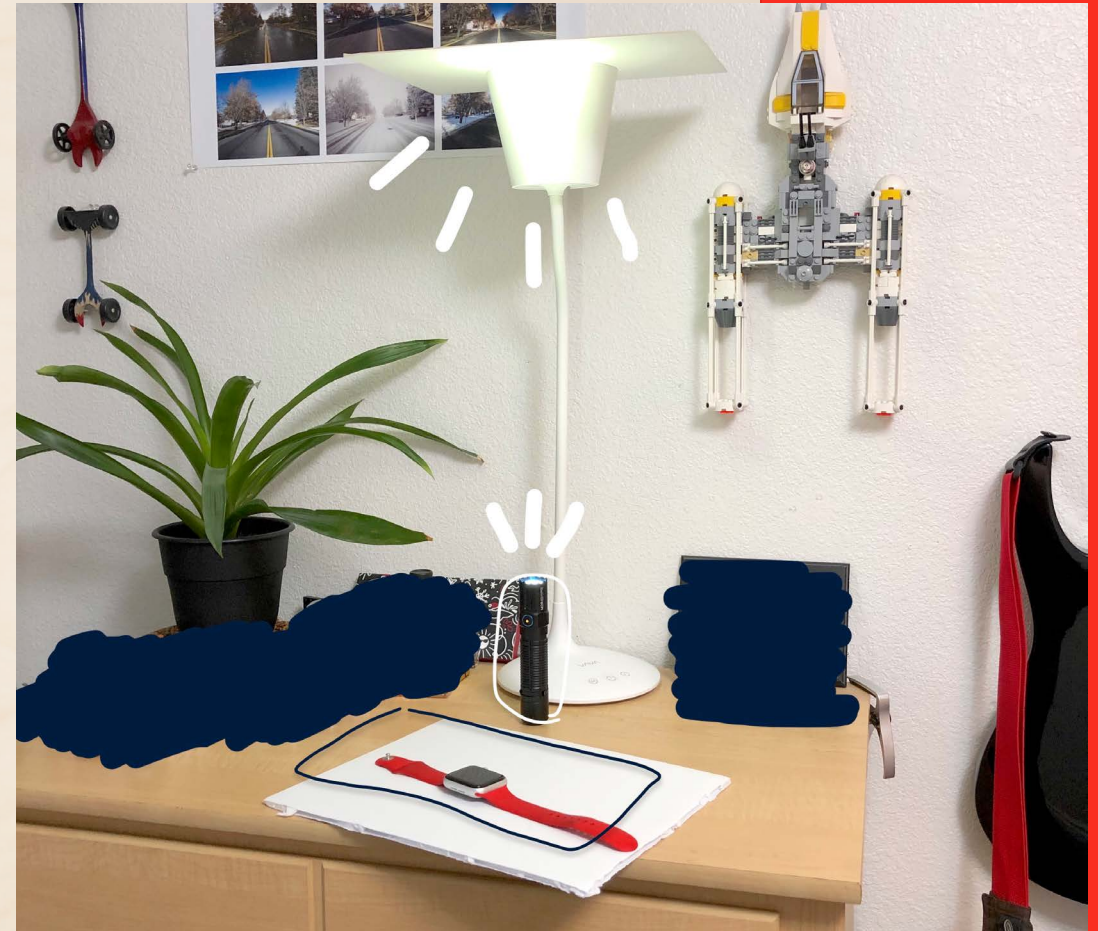
Sam using the watch prototype, he is very happy

# Develop

This section shows assets used and the process in which they were produced.

## DIGITAL ASSETS

I always try to produce all of my digital assets from scratch. I may use some old photos or icons made in previous projects, but for the most part it is a fresh start. I want to include photography in anyway I can since it is one of my favorite skills. These next pages will show things in their early stages, before they are “fixed in post”.



Improvised studio for product photography

# Photography

## PLAN

I have a general idea of what photos I will need after brainstorming and sketching. I like to take photos early as a way to kick-start the momentum for the rest of the project.

## EQUIPMENT

I shoot with the Sony a6000 mirror-less camera. I used the Sony 50mm f1.8 lens. I used a high-lumen flashlight bounced off of a reflector for the main source. I balanced the reflector on something, or held it with my free hand. Much of my equipment is cheap or improvised, but I enjoy making it look great in Lightroom and Photoshop.

## MOCK-UPS

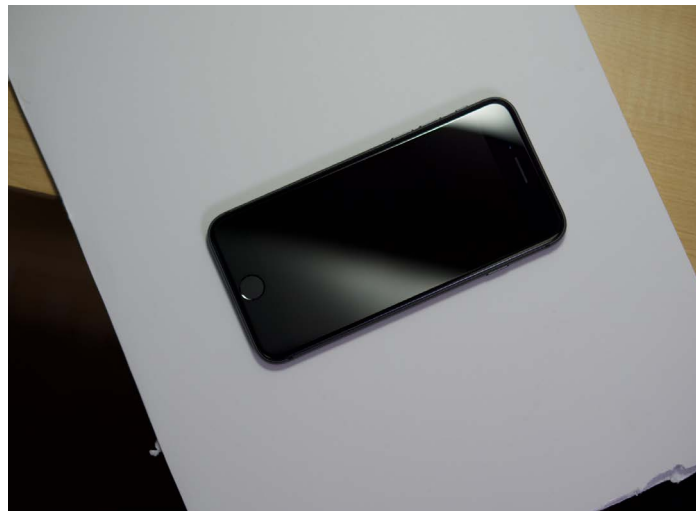
I like to take any opportunity I can to make original mock-ups for displaying my final designs. I took some photos with the intent of using them for that purpose, and some to be decorations for this process-book.



Apple Watch artistic shot from side



Apple Watch artistic shot from above



iPhone mock-up shot from above



Watch on wrist mock-up shot

# Graphics

## VECTOR ART

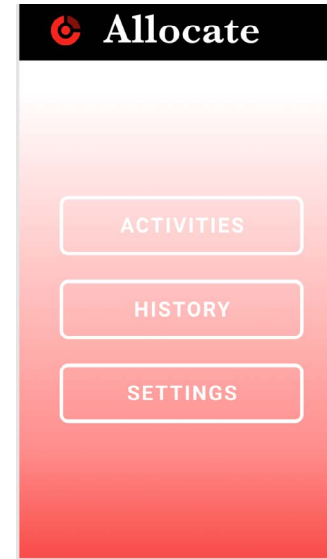
I used screenshots of existing apps for referencing things such as font-size and screen dimensions. Figma has a set of basic tools for creating vector shapes and text. It took some time to learn the basics of the program and get some simple designs created.

One weakness in the software is power when it comes to curves with lines and text. Without the ability to type on a line like you can in illustrator, putting curved text on the watch was too difficult to be practical.

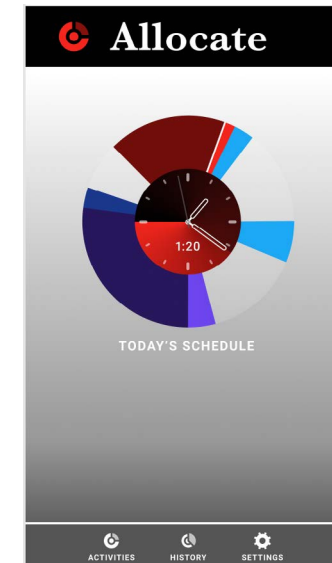
I needed to take a step away from perfection and remember the purpose of the design is to test a prototype. Once I had my head wrapped around that idea, I was able pick up the pace.



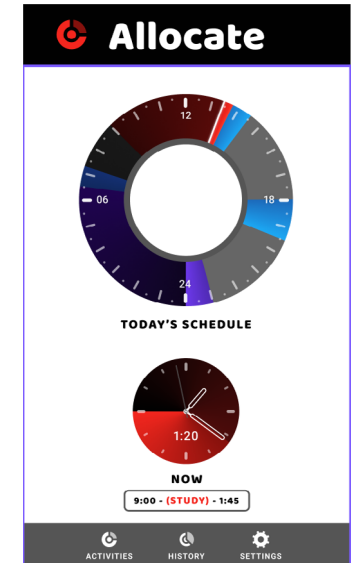
List (scrollable interactive)



iPhone variation 1



iPhone variation 2



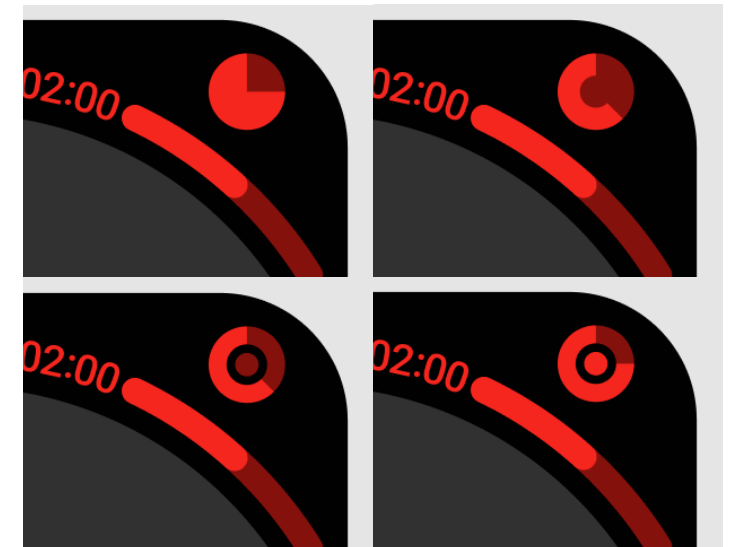
Final home-screen design



Watch face default



Watch face final design



Variations for the widget and logo

# Design

This section briefly goes over the adjustments that lead to the final versions.

## FUNCTIONING PROTOTYPE

A major part of the design process for this project was having it interactive. This was about being able to click and drag on things in a way you would expect in a published app. This was a lot of fun to do and a very effective way of demonstrating ideas.

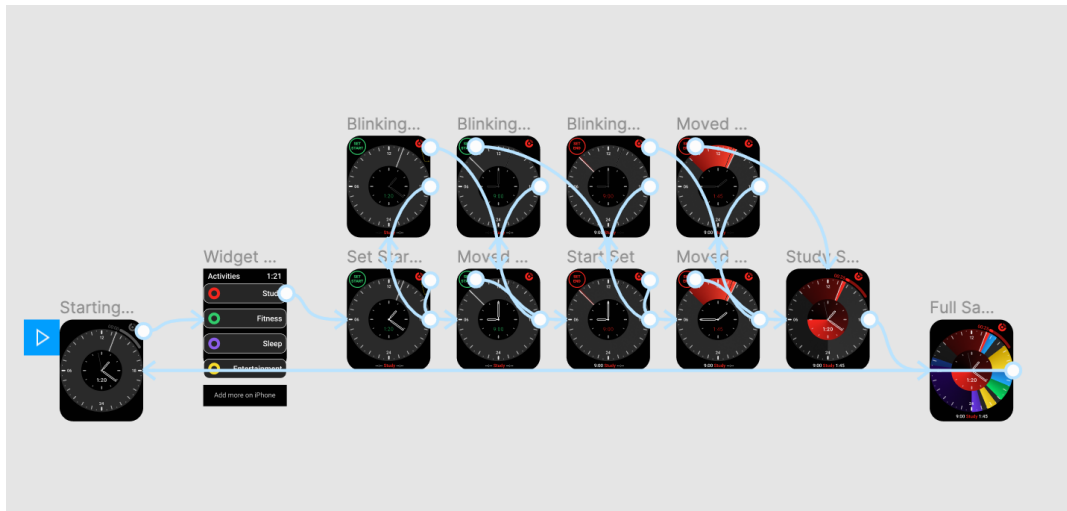


Prototype software framing feature

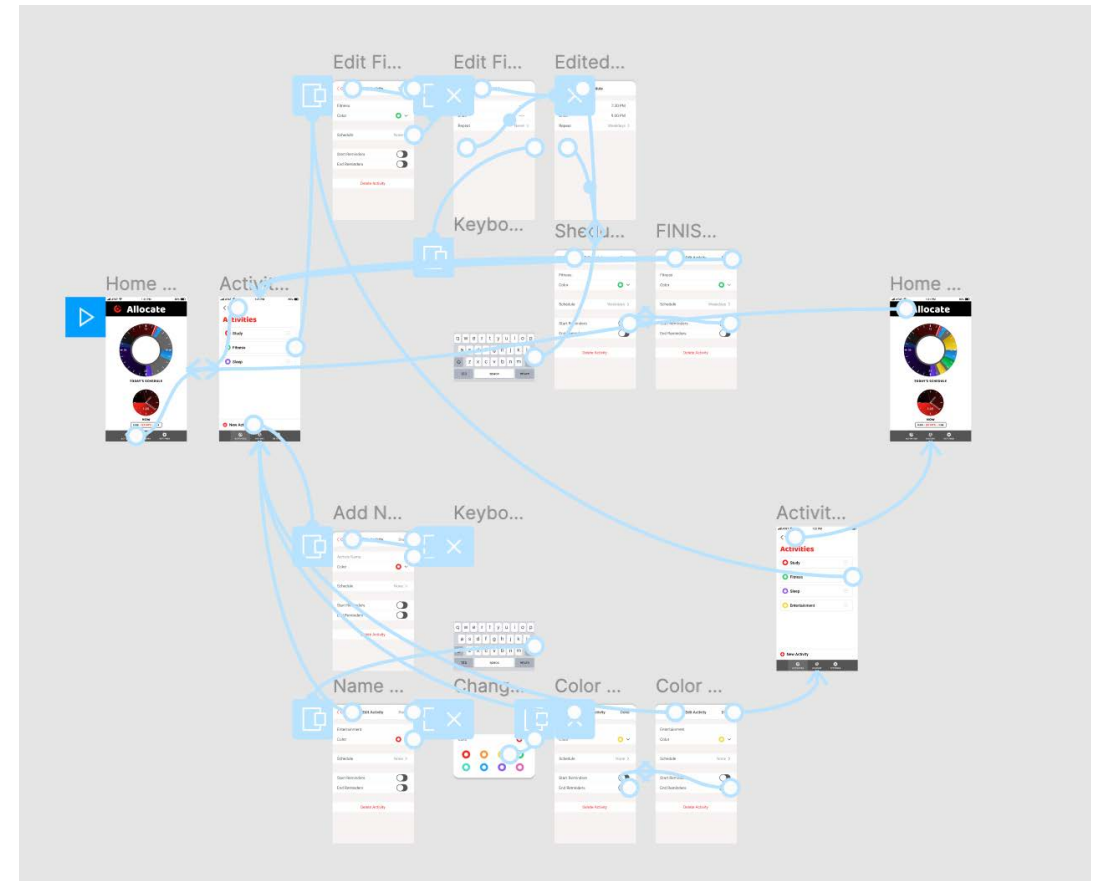
# Prototypes

## POSSIBILITIES

I already went over many of the changes I made while designing in the Determine section. User testing made a big difference towards the final design. I spent extra time creating other options not tested in the scenarios, such as functional back buttons and drag-able overlays. I would like to take these a step further if I have the time. I could add a concept for a history page on the iPhone, and repeat the process for adding another activity on the watch but in a different color. And I could add the ability to delete an existing activity on the watch.



Apple Watch final prototype design



iPhone final prototype design.

# Deliver

Presentation of the final designs.

## TRY IT OUT

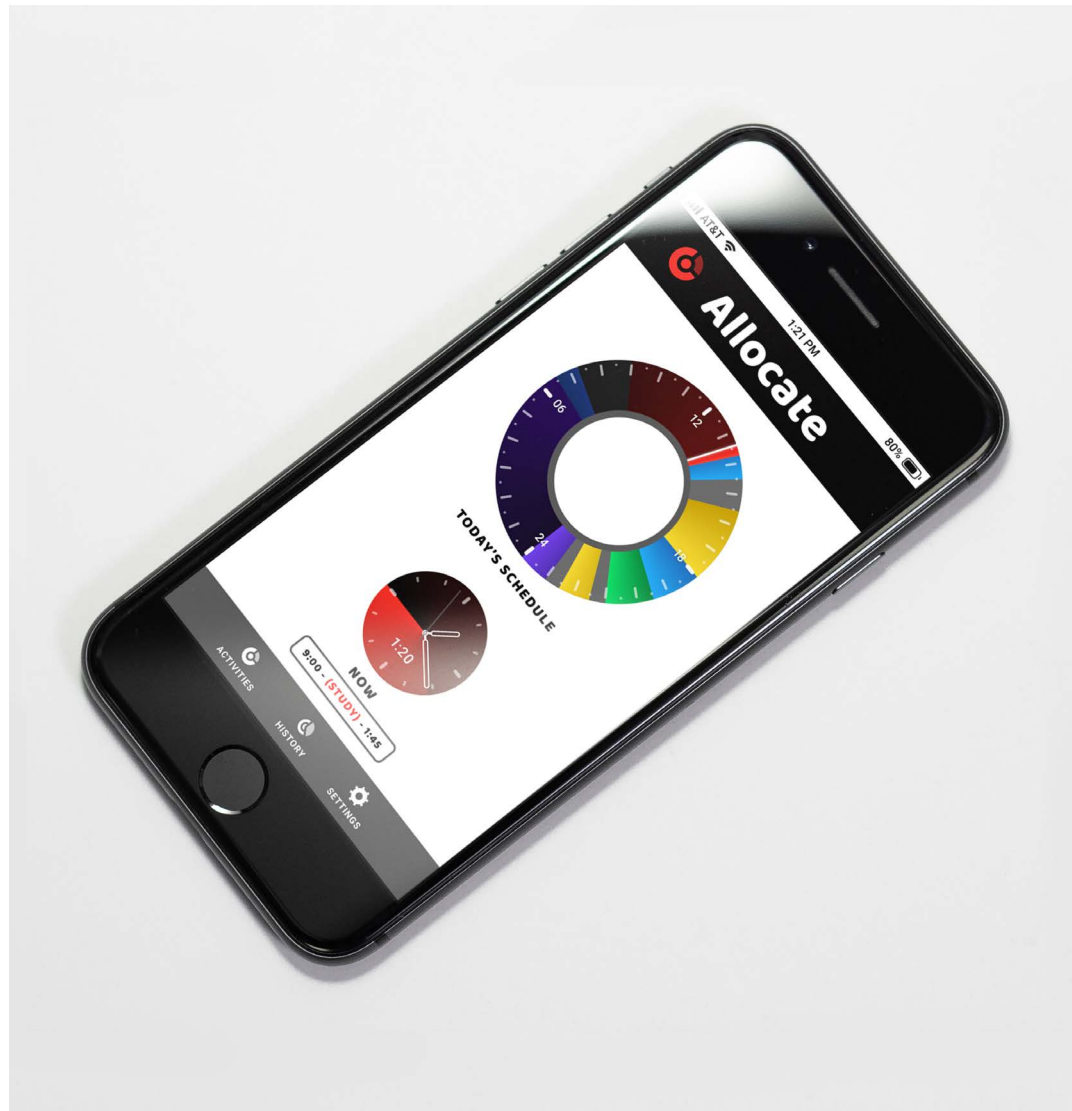
Follow the links in this section to the interactive prototypes and try out the scenarios yourself. If you get lost, clicking anywhere will highlight which buttons have been programmed.

[Video Presentation \(YouTube\)](#)



Watch-face Mock-up

# Mock-ups and Interactive Links



[Interactive Prototype Link: iPhone](#)



[Interactive Prototype Link: Watch](#)



## LEARNING SUMMARY

In the end, users found the idea for the app very interesting and practical. They were amazed by how believable the prototype was. I learned a lot about making good scenarios and **communicating clearly with the participants** so that they can provide the most helpful results.

This is the first interactive prototype I have ever made. It is also my first time using Figma. I really enjoyed learning about these things; I find it very fascinating and want to explore user experience/interaction more. Projects are a lot more fun when you **have a genuine, personal passion for your work**.

Ready at Hand vs Present at Hand: *“The moment someone focuses on the interface instead of the task they want to accomplish with it.”* **A perfect interface wont force focus onto itself.** The user should have their attention on the results of their inputs. The design has failed when the user needs to stop and troubleshoot the interface to get their desired result. These breaks will frustrate the user’s overall experience.



Mountains composite.