

Hospital Timesheet App: “MyTime”

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Project overview



The product:

“MyTime” is a smartphone hospital timesheet application for hospital employees with irregular hours and multiple job sites.



Project duration:

May 2021 – July 2021

Project overview



The problem:

Hospital employees with irregular job schedules or multiple job site locations found it difficult to track their work time. They often forgot to log their time, especially when being called in at the last minute or having to travel to alternate job sites. This resulted in timekeeping inaccuracies, wasted time and stress, and extra work for timekeeping administrators.



The goal:

The goal is to make it easier for hospital employees to remember to track their time, or to enable the app to track their time automatically based upon GPS, depending upon the user's preference.

Project overview



My role:

UX researcher and UI designer



Responsibilities:

- User research
- Wireframing (low fidelity and high fidelity)
- Prototyping (low fidelity and high fidelity)
- User testing and analysis

Understanding the user

- User research
- Personas
- Problem statements
- User journey maps

User research: summary



I performed a Moderated Usability Study with 5 hospital employees each in 2 rounds of user testing. In the 1st round of testing, users were asked to interact with a low-fidelity prototype presented on a smartphone and were verbally asked a series of prompts and prompt follow-up questions. In the 2nd round, users were asked to perform additional tasks with a high-fidelity prototype.

Assumptions going into user testing were that the app would be helpful to hospital employees and that the app was easily to navigate. Overall, the testers confirmed these assumptions and were pleased with the app capabilities. However, there were some issues raised when it came to filling out timesheets. Based upon this feedback, these issues were corrected with multiple iterations of design updates.

User research: pain points

1

Doctors can get called into work at various hours of the day or night. This makes it hard to remember to log work time.

Enabling reminders and automatic timekeeping based upon GPS location will be included capabilities in the app design.

2

Mobile employees are always on-the-go and have multiple job sites, which can make tracking time more difficult

Enabling reminders and automatic timekeeping based upon GPS location will be included capabilities in the app design. For manual timekeeping, the app will have easily visible large buttons on the home page to start/stop work time.

3

Users must go into the main office to request time off on a desktop computer

Users found it helpful to be able to request time off through the phone app, instead of having to rely on the computer at work. The design will include a menu option to enable users to easily request time off.

Persona: Steve

Problem statement:

Steve is a busy doctor who needs to accurately track his irregular work schedule because he sometimes forgets when he gets called into work at all hours of the night.



Steve

Age: 48
Education: Doctorate Degree
Hometown: Richmond, VA
Family: Married
Occupation: Doctor

“My work schedule is irregular and sometimes I get called in at all hours of the night. It’s hard to remember to track my work hours sometimes.”

Goals

- To care for his patients during regularly scheduled hours, as well as when he’s called in for urgent cases
- To remember to track his work hours in his timesheet, even when he gets called in unexpectedly
- To not cause any problems for the hospital administrators

Frustrations

- His schedule is irregular and hard to track or predict
- He’s sometimes tired when he gets called in during the middle of the night
- If he forgets to track his time, the administrators come after him with questions
- He wishes he could access the timesheet from multiple devices

Steve works as a busy doctor at a hospital. He works full-time hours on rotating shifts and is on-call during other hours of the day or night. Like other hospital employees, he’s expected to track his time, but with the irregular schedule and frequent exhaustion, it’s difficult to remember to fill in his timesheet.

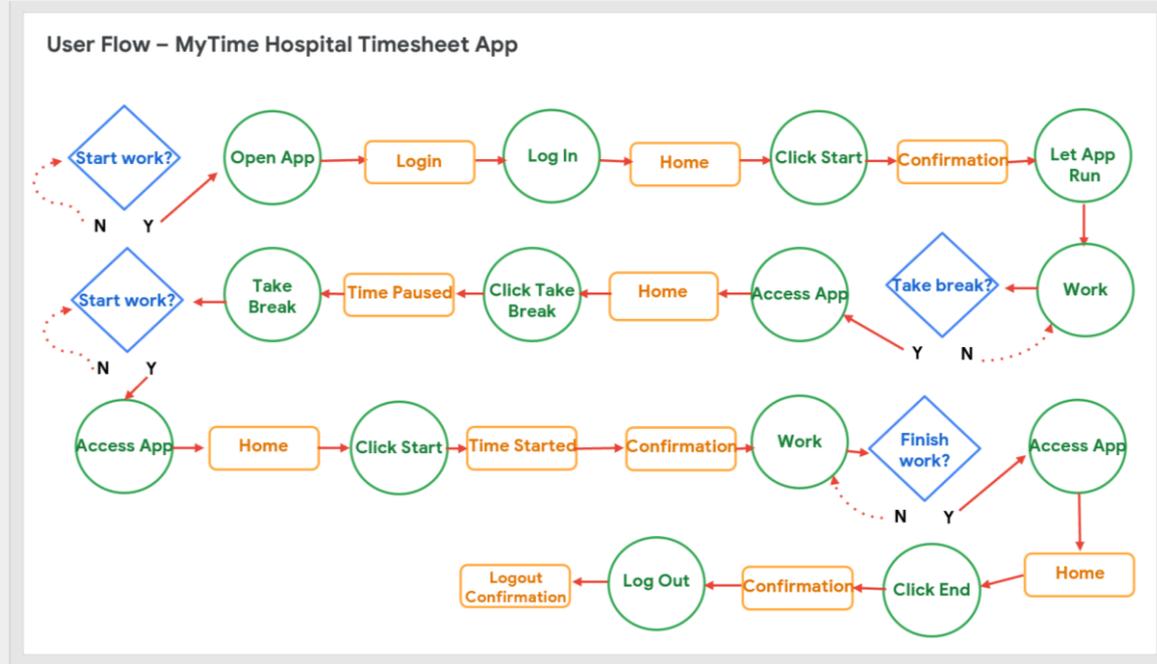
User journey map

I listed out the detailed tasks in chronological order that our personas need to perform, in order to understand the process and empathize with pain points. This helped determine how the app should work and how it can resolve these pain points.

ACTION	Start Work	Punch-In	Continue Workday	Punch-Out	Leave Work
TASK LIST	Tasks A. Get showered and dressed for work B. Walk to home office C. Bring smart phone to home office	Tasks A. Remember to punch-in B. Log in on timesheet app C. Check current time from wall clock D. Enter start time in app E. Click Save	Tasks A. Drive to patients' homes to help care for them throughout the day B. Take breaks in the car as necessary between patients	Tasks A. Remember to punch-out B. Go to app C. Double-check that necessary hours have been worked D. Check current time from phone or car clock D. Enter finish time in app E. Click Save F. Log out	Tasks A. Drive from last patient's home B. Arrive home C. Enjoy evening
FEELING ADJECTIVE	Groggy Sleepy Eager	Groggy Sleepy Eager Frustrated if forgot to bring phone or to punch-in on time	Content Productive Ready to leave work	Ready to leave work Excited Tired Frustrated if forgot to punch-in or punch-out on time	Tired Relieved Content Excited
IMPROVEMENT OPPORTUNITIES	-Set up visual, audio, and haptic (all 3 for accessibility) alert on phone as reminder to bring phone -optionally connect to Alexa for reminders	-App can automatically pull in current time to make it easier. -Visual/audio/haptic reminder -optionally connect to Alexa for reminders	-GPS on app can monitor where she is, so hospital can track and so she can find new patients' homes -app shows current hours worked in real-time as day goes by	-App can automatically pull in current time to make it easier. -Visual/audio/haptic reminder (all 3 for accessibility) -big buttons to log time easily from car (glare, distractions, etc.)	-Easy to read confirmation (big green checkmark) that time has been entered successfully for the day -Total hours for the day and week calculated and easy-to-read

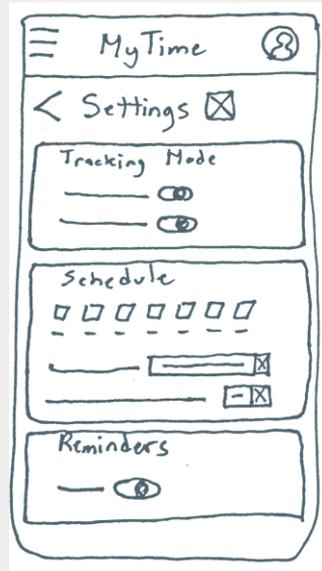
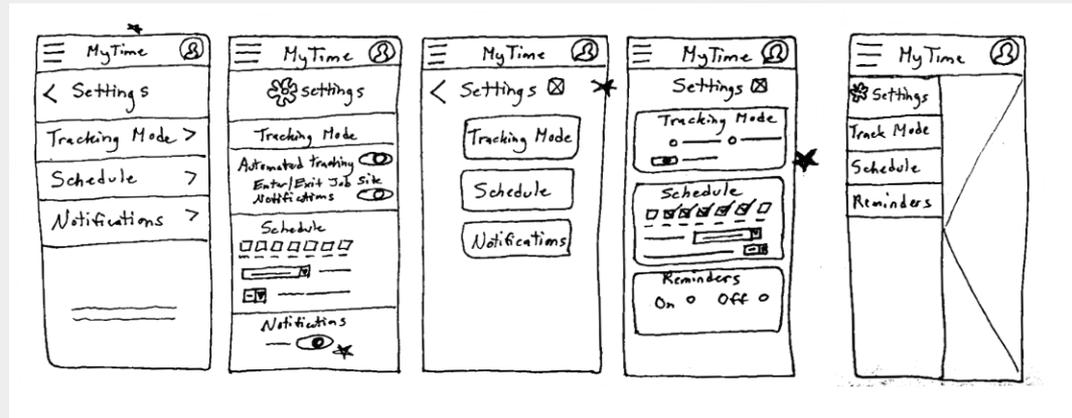
User flow

I thought through the logical order of the tasks that user must complete. This helped determine how the app should work and how it can resolve their pain points.



Paper wireframes

As I sketched design ideas for the Settings screen, which is how users can set automatic timekeeping, I thought about each step the user takes through their workday. The screen designs need to make timetracking and settings customizations easier for users.



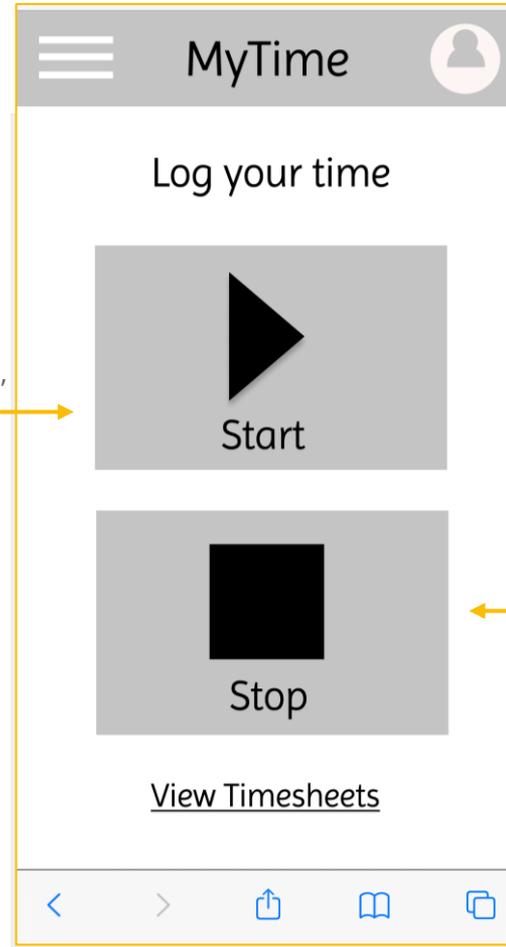
Series of paper wireframes showing iterations of designs, getting closer to meeting user needs.

Stars indicate design elements to keep for future iterations.

Digital wireframes

Wireframes were created in Figma to illustrate how the app would work. Users needed to quickly access the start/stop timer to easily log their work time. So, providing these controls directly on the home screen and using large clearly marked buttons allow users to easily access this functionality while on-the-go.

The primary goal of the app is to log time, so this functionality was placed on the home screen.

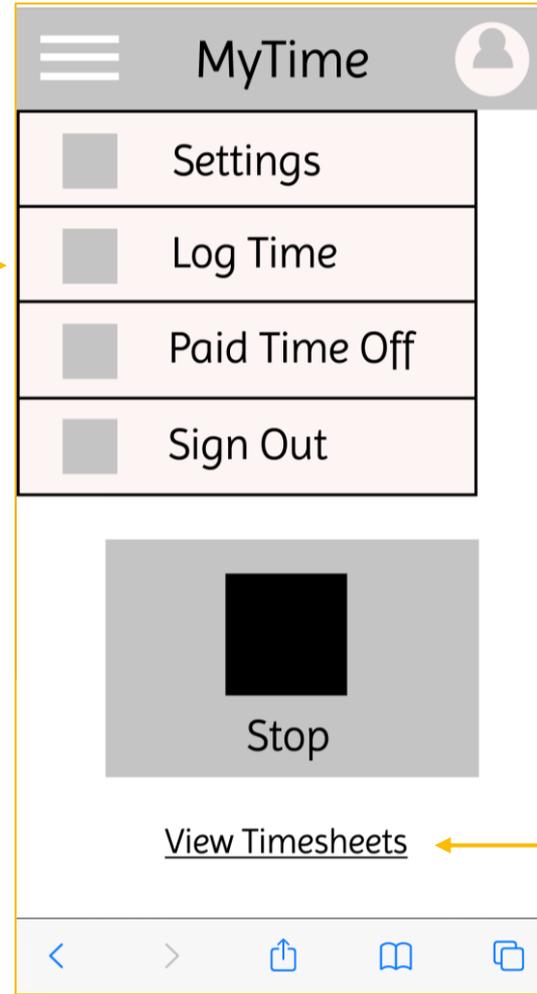


The buttons are large with clearly recognizable symbols and text labels, so employees can easily use the buttons, even while on-the-go and in various lighting conditions.

Digital wireframes

Wireframes were created in Figma to illustrate how the app would work. A hamburger menu was designed for the app so that users completing various tasks could easily find the option they need, no matter where they are in the app.

Hamburger menu can be reached from any screen in the app if the user needs to quickly change tasks

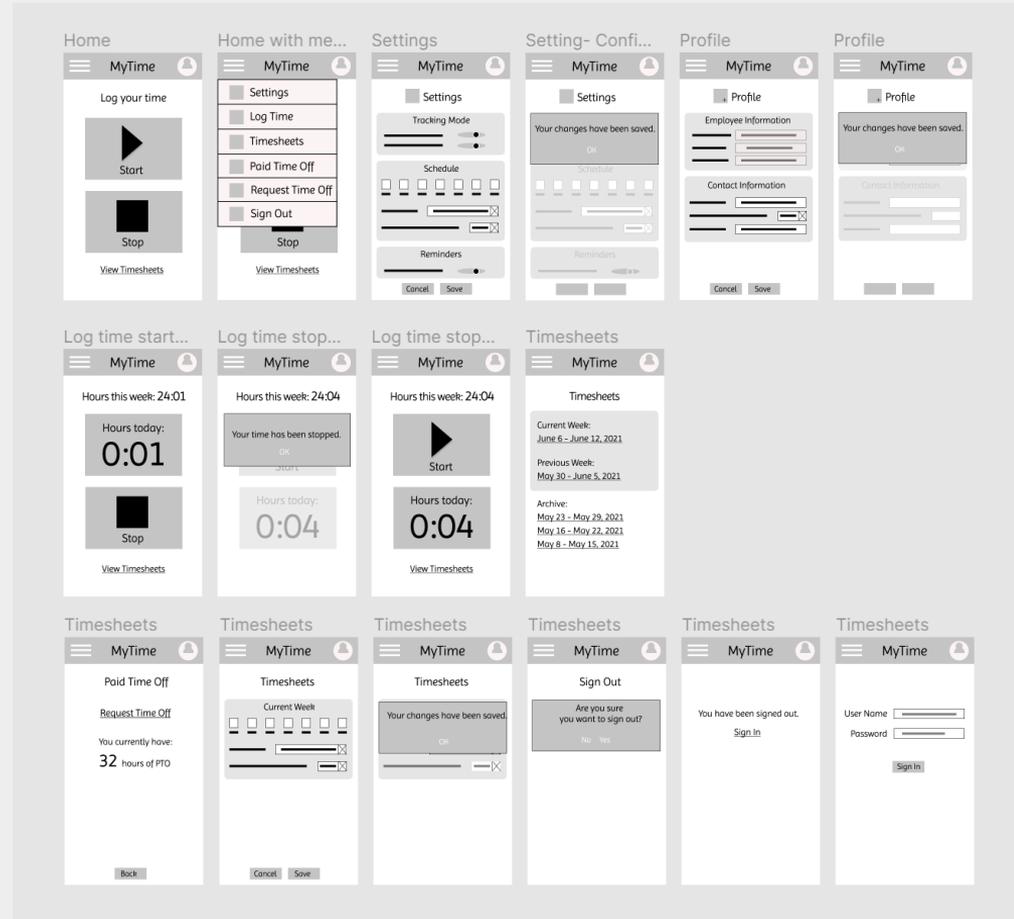


Employees often need to view the entire timesheet for the current week or previous week. Providing this link on the home page allows for easy access to this information

Low-fidelity prototype

Wireframes were designed for the main user flows and interactions were created between the screens so we can visualize how the app would be navigated.

[Link to Low-Fidelity Prototype](#)



Usability study: parameters



Study type:

Moderated Usability Study of Prototype



Location:

In users' homes in Virginia



Participants:

5 hospital employees: 3 female, 2 male
Age ranging from 30s to 50s



Length:

Over two days,
in five 20-minute sessions

Usability study: findings

1

It is easy to log time manually

Users found it very easy to start and stop logging their time manually on the home screen.

2

Users found the hamburger menu easy to use

Users found it very easy to access requested tasks through the hamburger menu.

3

It is helpful to have the option to request time off through the phone app

Users found it helpful to be able to request time off through the phone app, instead of having to rely on the desktop computer at work.

4

It is important to view the list of timesheets

Most users found it important to be able to see a list of the current and recent previous timesheets

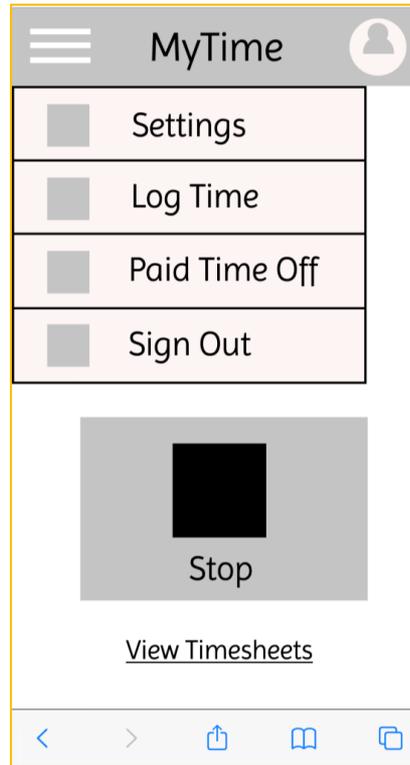
Refining the design

- Mockups
- High-fidelity prototype
- Accessibility

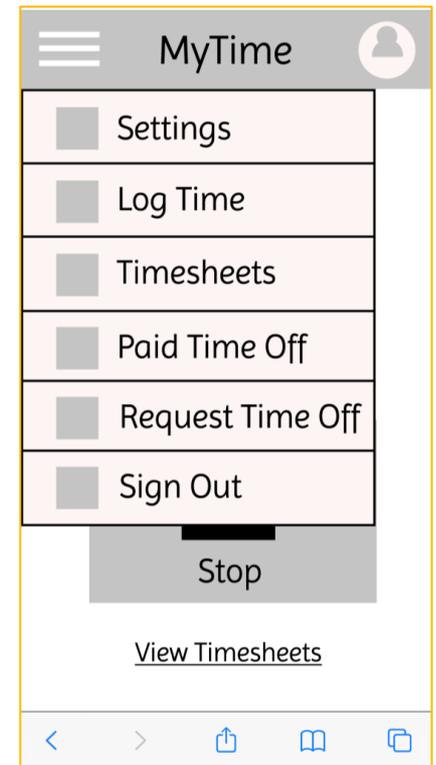
Mockups

Users indicated that it was important to view timesheets and request time off, and they displayed comfort with using the hamburger menu. So, I added the “Timesheets” and “Request Time Off” options to the menu.

Before usability study



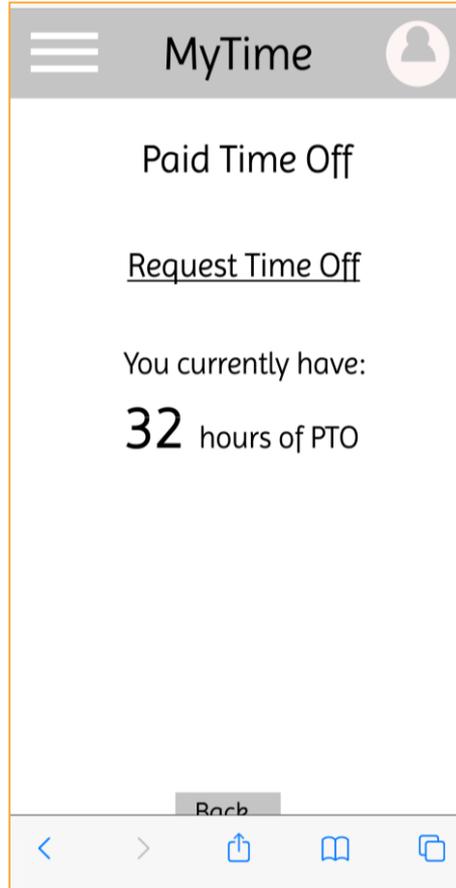
After usability study



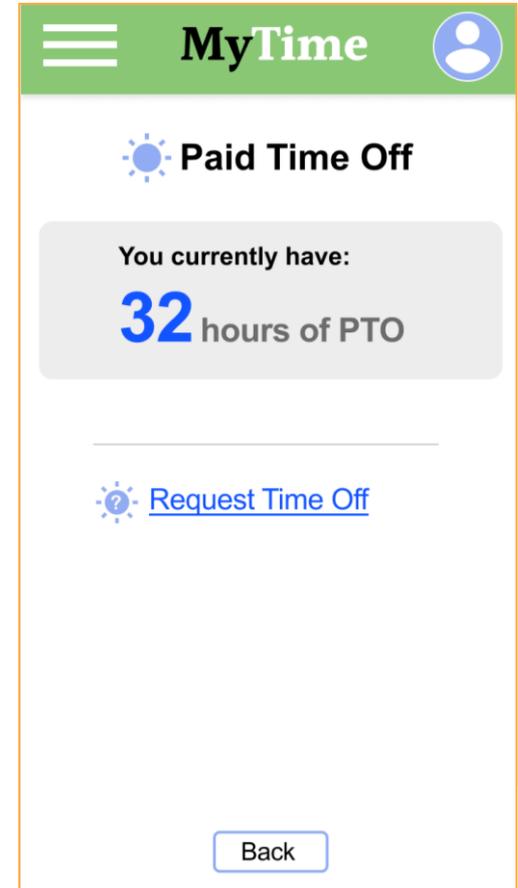
Mockups

Mockups were refined based upon the usability studies, as well as accessibility considerations and design principles. Through multiple iterations, the mockups became high fidelity, and incorporated various Gestalt principles.

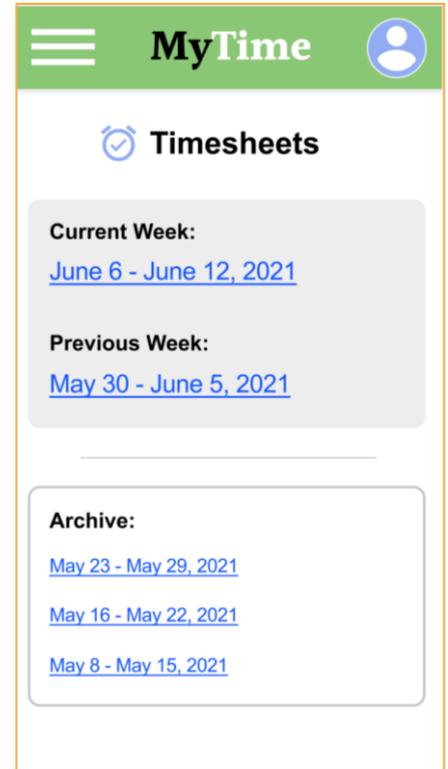
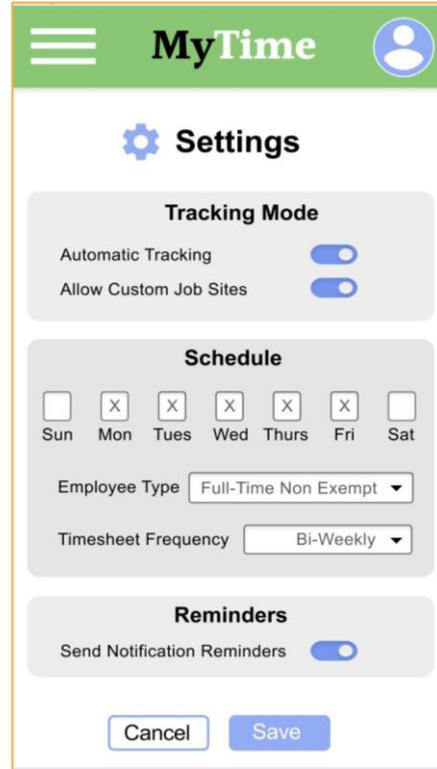
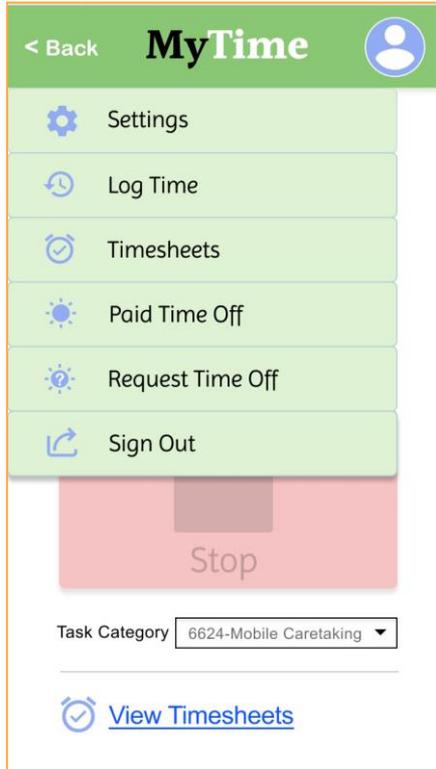
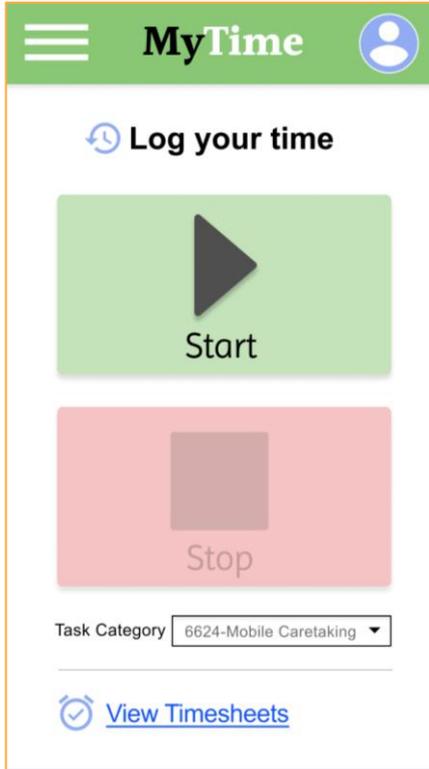
Before usability study



After usability study and design iterations

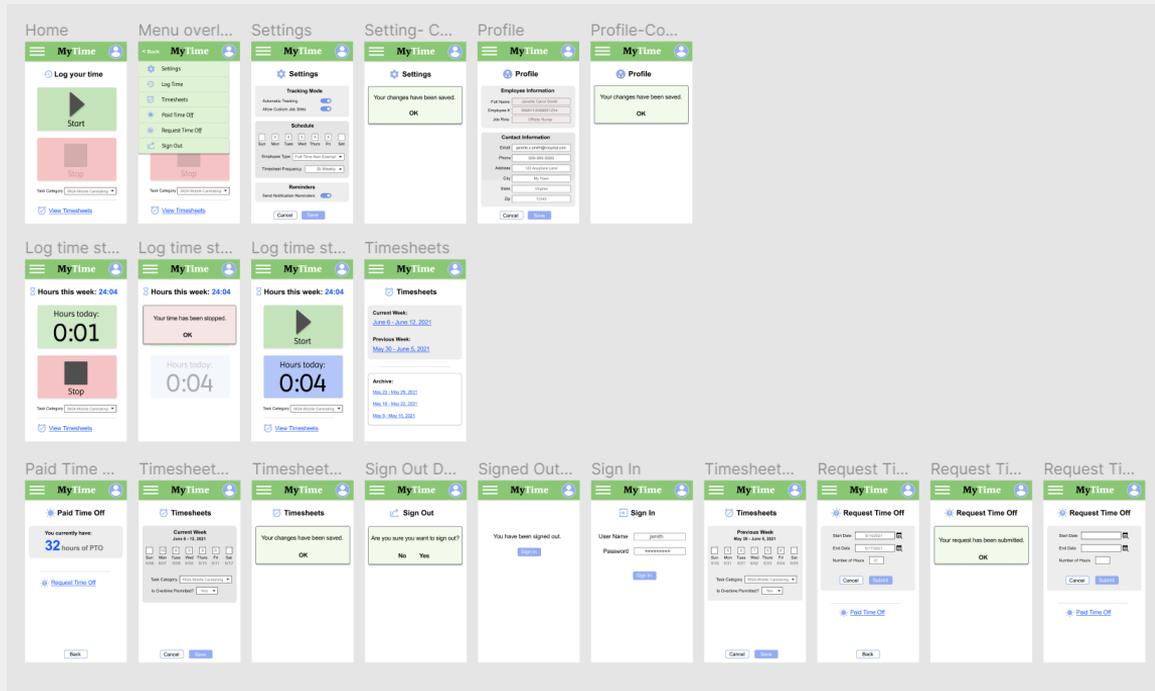


Mockups



High-fidelity prototype

[Link to high-fidelity prototype](#)



Accessibility considerations

1

The buttons for logging time are large and easy-to-use, particularly for employees who may be on-the-go, distracted, or in different environments. Using a combination of symbols, color, and labels to mark the Start and Stop buttons allow for various users to utilize.

2

The app is organized clearly. Each screen is easily identified with a bold header, and the information below is organized logically so that users of varying abilities and using accessibility devices can easily navigate the app.

3

Visual elements such as icons and contrast ratios have been considered. Icons help users navigate and recognize the various tasks to complete within the app. Contrast ratios have been tested so that content can be read by those with visual impairments.

Going forward

- The design has been shown to be easy to use for common tasks
- Next we will build out more advanced features, such as GPS tracking and specification of custom job sites

Takeaways



Impact:

The app makes it easy for hospital employees with irregular work hours and multiple job sites to keep track of their hours while on-the-go. This improves efficiency for the employees, as well as for timekeeping administrators.

"I wish MY timesheet app was this easy!" -user



What I learned:

I learned that, by listening to and understanding real users, one can help solve their pain points with simple design changes.

Next steps

1

Further user testing for more advanced tasks in the app, such as setting job site locations with GPS

2

Build out this GPS capability based upon the user feedback

3

Share updates with the stakeholders and begin product development

Let's connect!



Please contact me if you would like to review additional design work.

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Thank you!