MiPhone

Team

Scott Strong ……..… Designer
Sierra Anderson … Designer
Shane Miller ……. Designer

Problem & Solution

How much time do we spend on our phone? Many of the people we have interacted with, both in and outside of class, seem to have no idea. Through contextual inquiry, we identified the problem that many phone users have no concept of the time they spend using their phone. A side effect of this is that these same people do not know how they could change their habits for the better: they have no data to look at, and so they don't know how they can improve. By creating a phone application which tracks usage over time, as an overall number, as well as an application-specific number, we will allow these users to decrease their phone usage as they see fit, based on their previous usage. Specifically, we will focus on goal setting and notification to motivate our design.

Contextual Inquiry Participants

Rita is a mother of three boys, and works at University Presbyterian Church. Our conversation took place in her office at the church. Our interview was unique in that Rita had not filled out a phone diary; she had thought it wasn't actually representative of her phone usage. Additionally, much of what we discussed wasn't actually her own usage, but rather the phone usage of her boys, especially regarding nighttime and school use.

Andy is 25 and works at an insurance company. Although not a heavy phone user, he makes a conscious effort to reduce his phone usage. His phone did not interfere much with his work, since there his computer is the main source of distraction. He also has a work phone (Blackberry) so he almost never does work on his phone. Most of his phone use in the diary occurred at night, watching videos on Youtube. Andy is most concerned about phone use during social outings as it is one of his pet peeves. "When I'm looking at my phone, I forget where I am sometimes so a

reminder of the context I'm in would be helpful." He said he would interested in a system with points, maybe between friends out together, competing to see who spent the least time on their phone. Also mentioned that if the system was too annoying or intrusive he'd uninstall it and it should definitely contain a mute feature of some sort.

Iman is a junior undergraduate student at the University of Washington. Our inquiry took place in an Informatics class lecture at 8:30am in the morning. I observed him through class, noted when he used his cell phone, and then met up with him after class. I prompted him about his cell phone usage, to which he acknowledged that he did use it in class a lot. I pointed out to him that he used his cell phone for a combined 20 minutes out of an hour and a half lecture. Although he knew he used his phone a lot, he was surprised when I told him that because he thought it was much less. He definitely agreed that our project idea was a good one; to help people be more aware of their cell phone usage.

Contextual Inquiry Results

All three participants acknowledged that they would like to know more about phone usage; either of their own or someone else's. For Andy and Iman, they found that the total time spent on their device might be extremely helpful information.

All three participants shared concerns about phone use in different contexts, i.e. during class or in social situations, or for Rita while her boys were at school. This suggests it should be up to the user to decide what contexts they want to cut down their phone usage in.

All participants believed that more awareness and understanding of phone usage would be helpful to teenagers and young adults. Rita and Andy both use their cell phones at work, but did not seem particularly worried about their mobile phone usage in their work environment. Andy and Iman were worried about how distracting their phone can be to them, Andy in a social context and Iman in a class environment.

All this being said, we found that the inquiry participants focused on three aspects of tracking phone usage: overall usage, schedule-specific tracking, and app-specific tracking. Overall usage deals with daily/weekly/monthly time-on-phone. This is really the "base" time spent on a phone, which includes all apps, and is schedule

independent. Schedule-specific tracking relates to a user's schedule, enabling them to view their phone usage as it links to their daily work/play schedule. App-specific tracking deals with the user's tracking preferences in terms of applications on their phone. For example, our participants voiced positive opinions about the option of tracking time on certain applications, especially things like Facebook or Twitter.

As time has gone on since our contextual inquiries, we realized that privacy concerns are another common motif between the participants. This is especially relevant to our "schedule-specific" tracking option. For example, Rita stated that she would be hesitant to report her schedule to yet another application, as she would rather keep her daily whereabouts personal. This is something we've had to deal with in our design, and we've tried to create some kind of schedule input system which doesn't compromise users' daily security.

Task Analysis Questions

1. Who is going to use the design?

Our design will be used by people that are concerned about their phone usage, but may not necessarily know how much they should be on their phone or how much they are currently on their phone. This is likely to include people in their late teens to early thirties, mostly students and young professionals.

2. What tasks do they now perform?

The tasks now performed are becoming distracted by and spending too much time on a smartphone device.

3. What tasks are desired?

The desired task, overall, is to reduce phone usage and increase productivity. This is accomplished by two related subtasks, allowing the user to set goals and track their usage over time.

4. How are the tasks learned?

The tasks are learned through notifications nudging the user to reduce phone time throughout the day and allowing the user to view their phone usage data over time.

5. Where are the tasks performed?

The tasks are performed in the smartphone and anywhere phone usage might be a

problem, such as at school or at work or with friends.

6. What is the relationship between the person and the data?

The data is meant to shape the habits and goals of the person. The data gains meaning over time, providing more information to the person as the amount of data increases.

7. What other tools does the person have?

The person also has tools to customize what kind of phone use is neutral or beneficial and what kind of phone use they want to decrease.

8. How do people communicate with each other?

Since one of the driving factors of this design was originally to encourage face-to-face communication, there is no way for people to communicate with each other in our design.

9. How often are the tasks performed?

The application would be continually running in the background, and interacting with the person throughout the day.

10. What are the time constraints on the tasks?

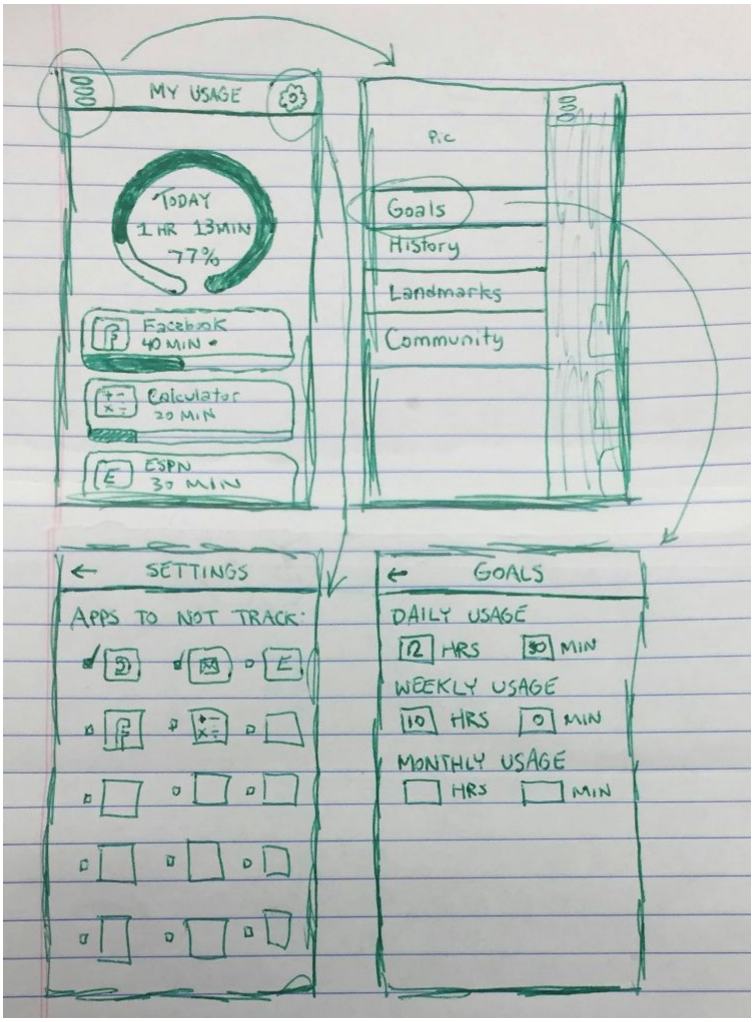
There are no time constraints on the performance of the tasks. The design is meant to be low pressure. The person chooses how quickly or slowly they want to improve, if they want to decrease their time at all.

11. What happens when things go wrong?

When things go wrong, a person has exceeded their usage goal. Rather than punishing a user, going over your goal for that day is a neutral event, and you can still choose to reminded of your usage.

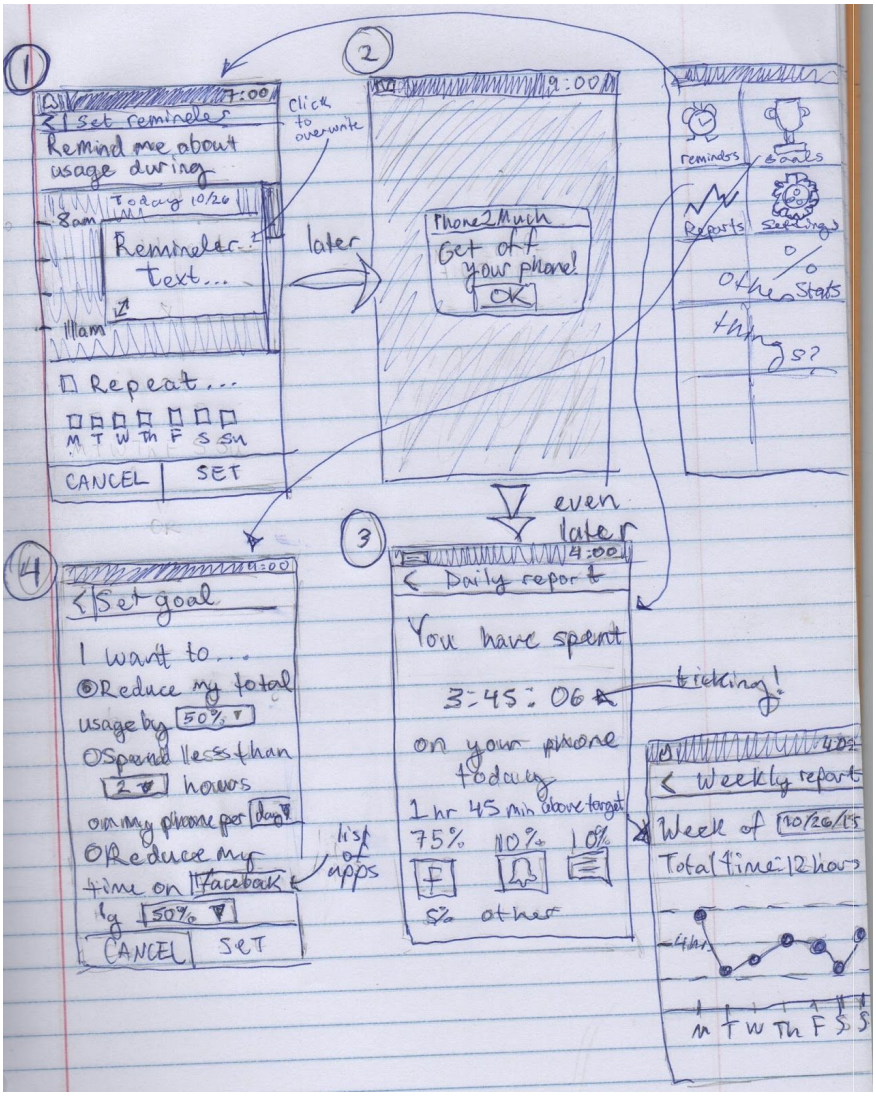
Design Sketches

Design #1



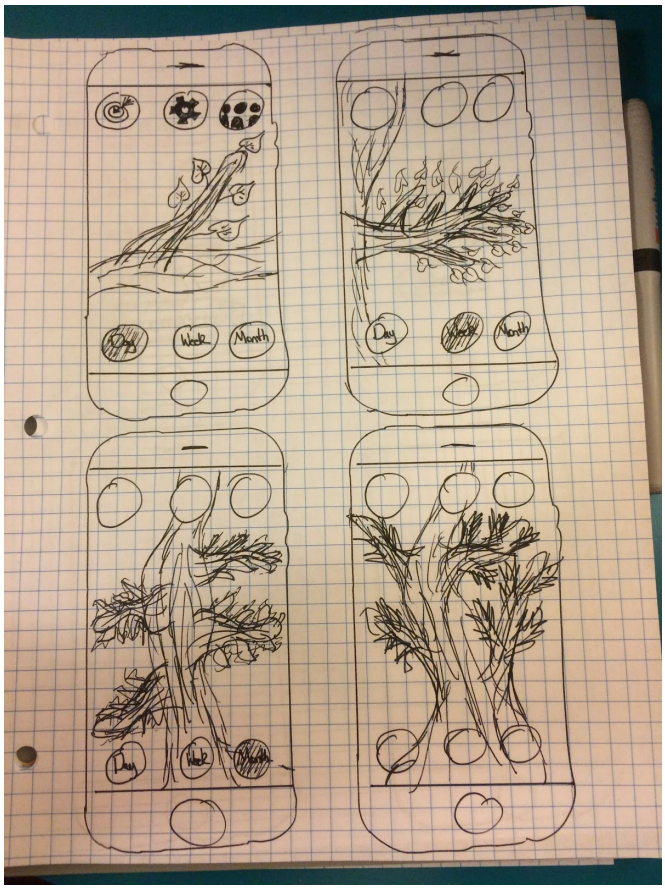
Our first design focuses on staying under a user-specified goal. The goal is shown on the top of the main page of the application as well as information letting the user know how much they have used their phone today, upon open. The user can decide what app usage is beneficial or neutral and what is detrimental. In this design, the person opts out certain apps they don't want included. To record phone usage goals, the user must select the goals section from the left hand side hamburger menu. This allows the user to input their goal time usage in hours and minutes for daily, weekly, or monthly goals. A user will know when his or her overall usage time is exceeded because a notification will drop from the top of the screen when this is the case.

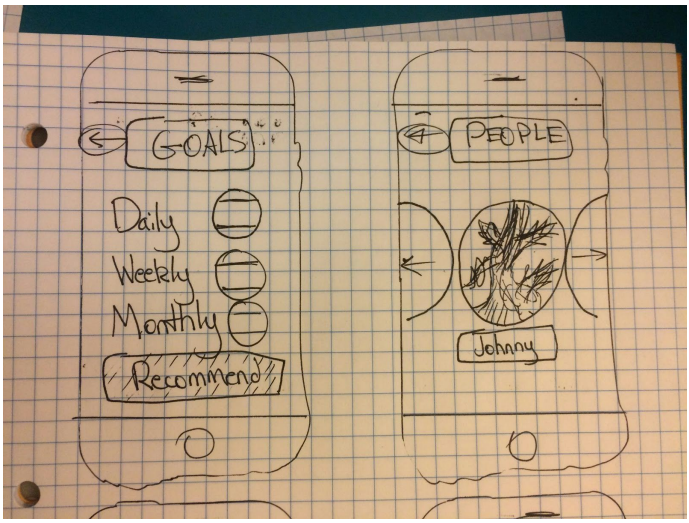
Design #2



This design is centered on setting reminders for times when the user knows should not be on their phone. It is directed towards a person who already knows they want to reduce their phone usage. It shows how a person might select a block of time they don't want to be on their phone before their day begins. Much like a digital alarm clock or calendar event, the user is able to have these reminders repeat. This design incorporates notifications much like the first design, but with a warning dialog instead of a drop down. The user is also able to review their data and set goals.

Design #3





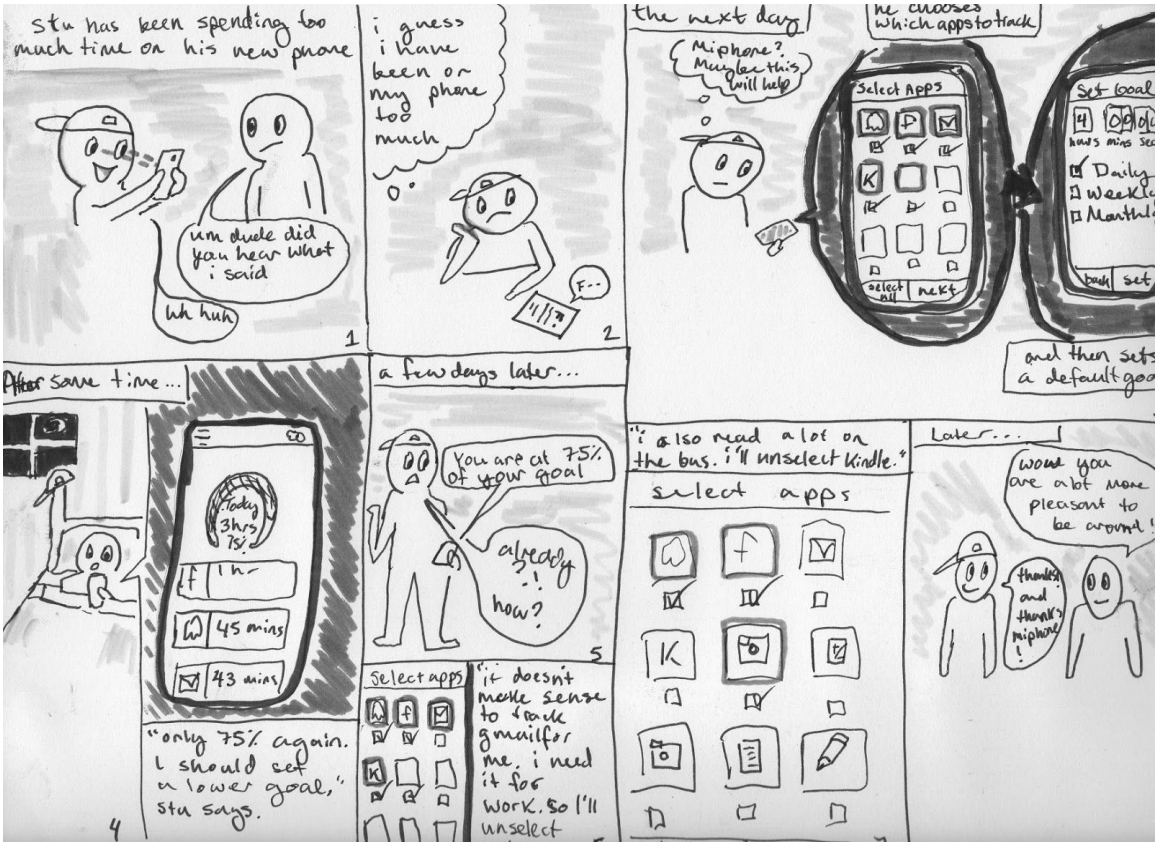
The third design takes a unique approach to presenting the user data and uses positive reinforcement rather than nudges. The design is centered around a tree, which grows according to the achievement of user-set goals. A day of phone usage is a twig, a week is a branch, and a section of the trunk represents a month. If the goals are met, the tree will blossom, grow fruit and flowers. If the goals are not met, rather than having the tree wither, it will simply not be as dynamic and green as other parts of the tree. The home screen is a view of a tree. It also allows you to see the trees your friends are growing.

Design Choice

In the end, we chose to focus our efforts on the first design. The design is simplest, most effective at communicating the supported tasks, and the most aesthetically pleasing as well. It also addresses two key issues that have been brought up by our peers and that surfaced during two of our three inquiries. How much time do we spend on our phones? Most of the people we have interacted with, both in and out of

class, seem to have no idea. Smartphones are so ubiquitous and useful it is hard to gauge how much time we actually spend on them. And how much time *should* people spend on their phones? The goal setting feature allows us to suggest a default without being condescending or preachy. As for tasks, we chose to focus on goal setting and usage tracking. these tasks are the two most naturally communicated by the design and they also form a nice feedback loop between each other.

Scenarios & Storyboards



Scenario 1: Goal setting

Stu has noticed lately he has been spending a lot of time on his new phone when he'd rather not be, including when he's hanging out with friends, during work, and in class. He has a feeling it's more than it should be, but he's not sure how much time exactly. He downloads our application and fills out some information about what apps he might like to cut down on. He begins tracking his phone time using the default goal as a starting point. After viewing his data over some period of time, whether that is a day or a week or a month, he can adjust his goals accordingly, setting them lower or higher as needed. Additionally, he can change what apps count towards his goals as his needs and habits evolve over time. Suppose Stu starts

using the Kindle app to read books on his phone during his commute but still wants to cut down on his social media use. He can set our application to count time spent on Facebook against his goal but not his time reading.

Scenario 2: Usage tracking and notifications

As Stu goes through his day and uses his phone, our application keeps track of the time he has spent on it so far. As his usage time increases towards his maximum, he is notified of how close he is. For instance, at one point in the day he may be alerted that he has already reached 60% of his max goal. This alert is meant to invoke two questions: Is what I'm doing on my phone necessary? And is there something else I should be doing? The user can set how often they'd like to be reminded. If Stu goes over his goal, he can choose if he still wants reminders to appear. Additionally, Stu can mute the reminders at any point if they are getting annoying during that specific day.