

SpringBoard

An app that encourages users to meet their daily goals by magnifying personal success into positive social impact.

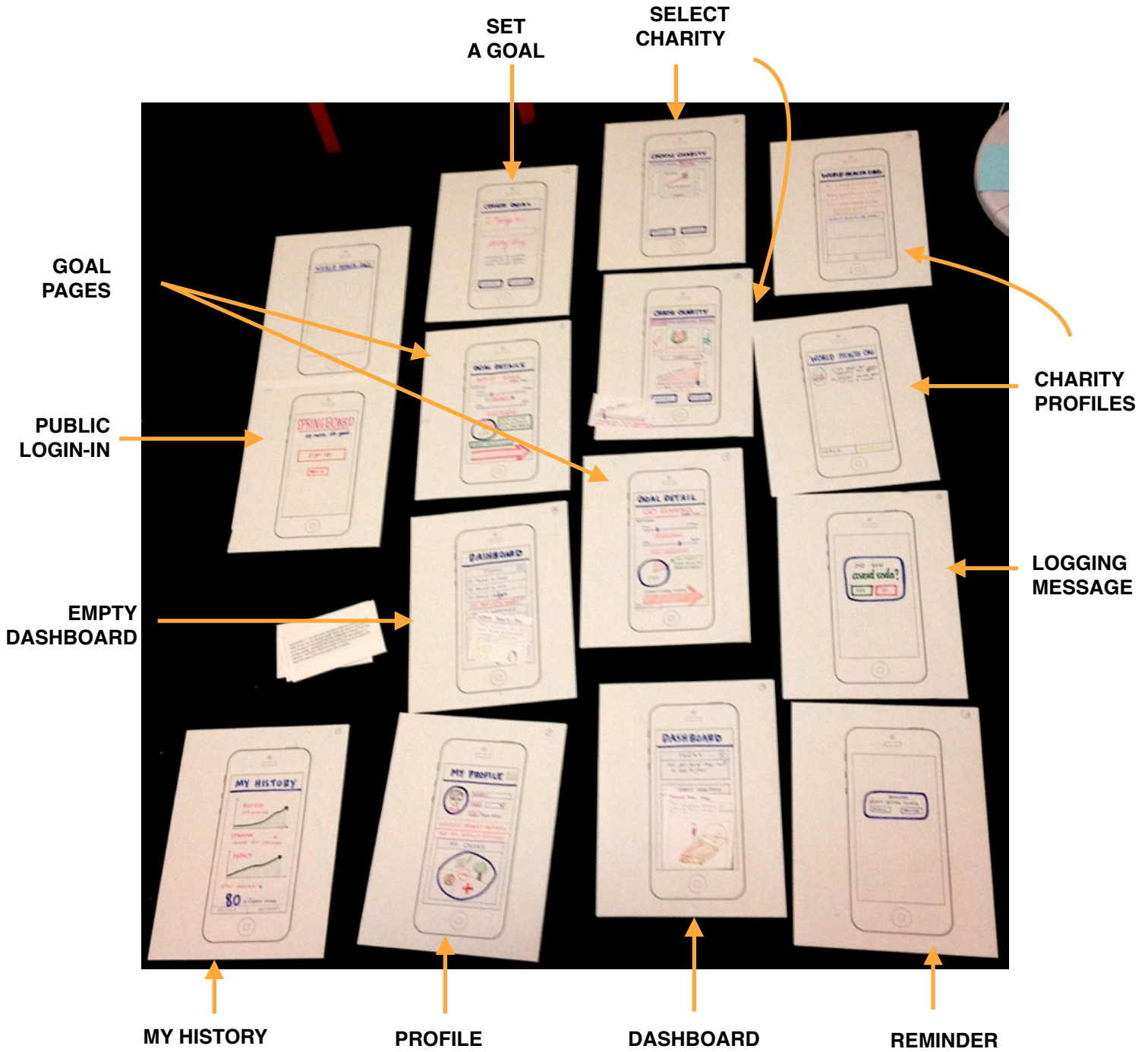
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Paper Prototype

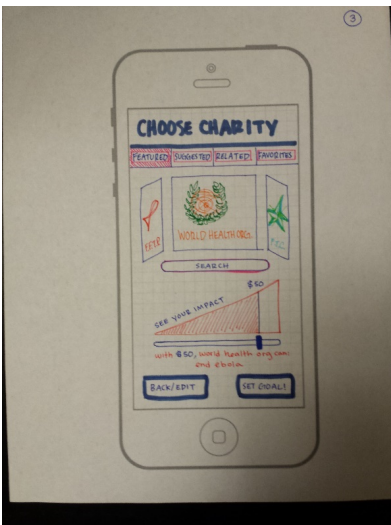
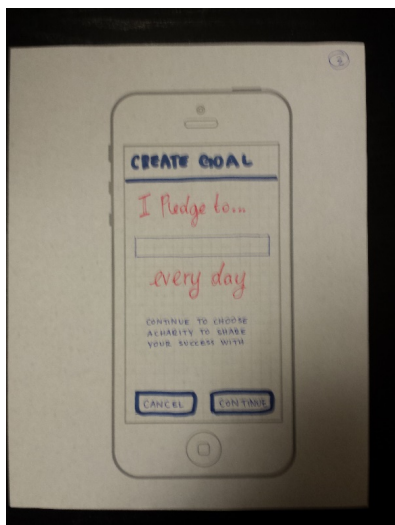
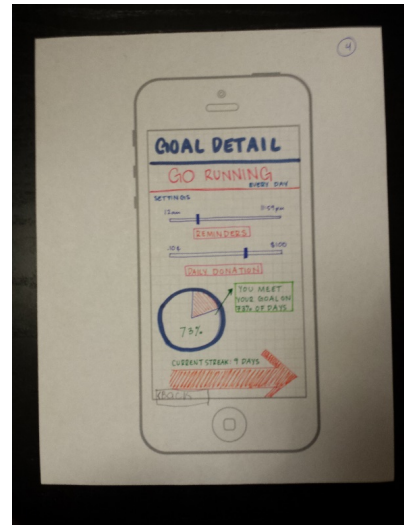
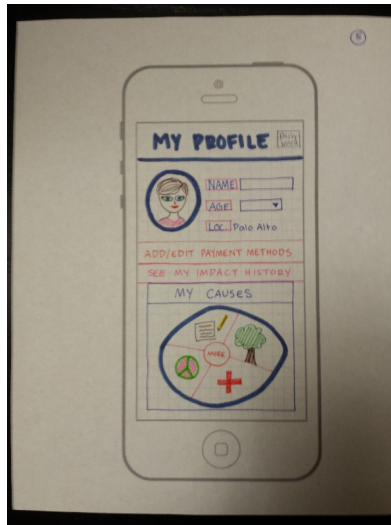
Our paper prototype envisioned SpringBoard as an iPhone application. Using iPhone templates, we sketched fourteen different screens in a colored sharpie and pen. We also created several movable panels like check boxes and sliders to represent the UI's dynamic elements.

The prototype models SpringBoard's workflow. Users can create an account and add a profile, set goals, and browse charities. Over time, users can track progress of goals through notifications and view progress of goal adherence and charitable giving. We omitted a few screens - credit card entry, search, etc - if we didn't feel our design ideas were different than similar familiar features. The main sources of functionality center around setting and choosing a goal, logging/editing/maintaining that goal, and visualizing that data over time.

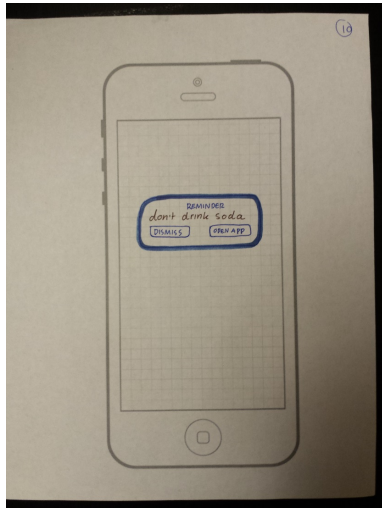
Users interacted with the system through buttons, sliders, and other UI elements. To simulate SpringBoard's workflow with the paper prototype, one of our teammates responded to interviewee's actions like the computer would. When a user attempted to access functionality not yet implemented in the prototype, the human-computer described the future functionality to the user. The prototype also showed iPhone notification screens, which were handed to the user by the computer. Users then can dismiss notifications to end the application flow or open the application from the notification.



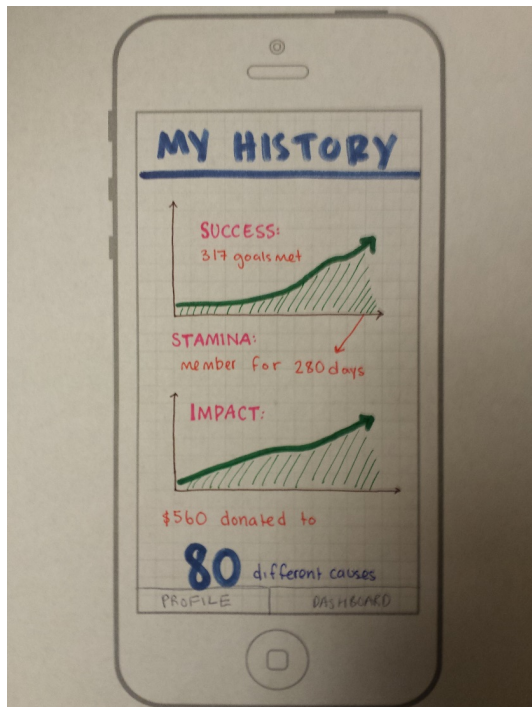
Task 1: Setting up Profile and Adding a Goal



Task 2: Logging a Goal and Setting Reminders



Task 3: Reviewing Progress and Impact



Method

Participants

Our experiment involved three participants. The participants were all acquaintances of team members with little to no background in HCI and no knowledge of SpringBoard ahead of time:

- N, male, 25, professional working for a startup in Menlo Park part-time
- C, female, 22, research assistant in the Stanford psychology department
- S, female, 22, student in Human Biology

Participants were chosen to be within the target audience: young, tech-wavy goal-setters with some disposable income. They received no compensation for their involvement in the study.

Environment

We conducted our user testing in Tressider Student Union and the lounge of Xanadu residence. Interviewees sat across from our team members, each of which was assigned a role:

- The “computer” would responded to the user’s actions by moving screens and UI elements when actions were possible.
- The note taker recorded all user actions and feedback as he/she performed the tasks
- The interviewer directed the user by reading the interview script and provided the user with the tasks.

Tasks

Each user was asked to perform three tasks. We read the directions aloud and gave them to our participants on notecards:

- Task 1: You have just been to the dentist, and she recommends that you stop drinking soda. You've heard about an app named SpringBoard and want to use it to boost your self-motivation and support your goal to stop drinking soda. This screen [hand public screen to interviewee] is what you see after you download SpringBoard.
- Task 2: You are super busy, but still want to keep up with your goal to avoid soda. One way SpringBoard can help is by reminding you to keep to your goals and log your progress. The first day you have set your goal to avoid soda, you get a ding on your phone and this notification appears [hand notification screen]. Your objective in this task is to 1) show us how you would use the app to indicate that you had achieve the daily goal and 2) configure your reminders to set a SpringBoard alert to go off at dinner time also.
- Task 3: You have been avoiding soda and donating to the WHO every day for the past week. Now, you want to see how your donations have supported the wellbeing of others! This task

is open ended: starting on the dashboard, use SpringBoard to see your charitable impact and tells us what you think about the ways the apps links social good with progress.

Procedure

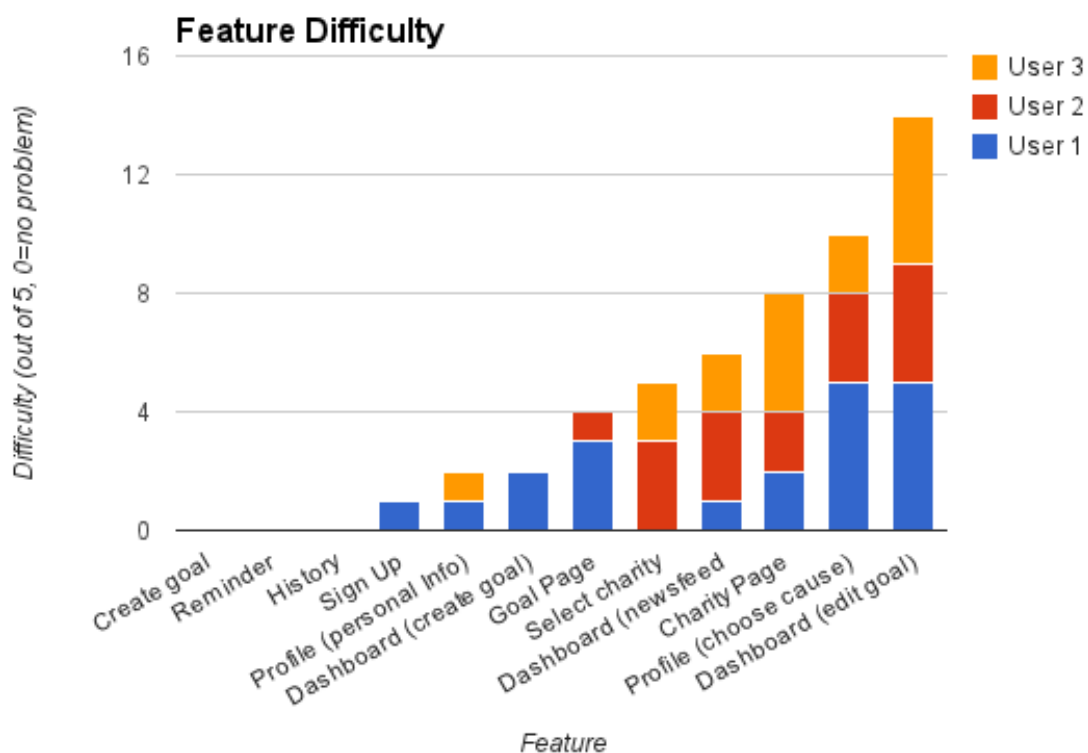
At the beginning of the experiment, the user was given the consent form (included in the appendix) to read and sign. After hearing the instructions from the interview script, he/she was given the first task. The note taker recorded his/her actions and comments as the user attempted to achieve the objective. Upon completion of all three tasks, we asked the user about his/her opinions on each screen, on the user interface as a whole, and on the application concept as a whole.

Test Measures

During the tasks, the notetaker gather data on how much difficulty the user had navigating each screen, on a scale of 0 (no difficulty) to 5 (could not navigate without instruction). The notetaker scored both screens and individual features. For example the dashboard was broken into three features which users had to execute in various scenarios. The note taker also gathered qualitative data on user feedback.

Results

Several trends and areas of consensus came out of the quantitative and qualitative data. As shown in the chart below, users had little or no difficulty understanding or navigating some screens, including the create goal page, the goal reminder notification and the user history screens. Users had difficulty navigating features the charity information pages, choosing a cause on a profile and editing a goal from the dashboard. Other features show mixed results across users.



Much of the qualitative user feedback echoed the quantitative results. Some key quotes and points of feedback are:

- “Is this a ‘homework button’ under ‘My Causes’ on my profile?”
- “Is my causes where I choose the charities I donate to?”
- “I didn’t realize I could click on the goals to edit them”
- “[The history page] is very straight forward”
- “[When I saw the Red Cross was a featured charity] I thought the red cross paid to be on the newsfeed”
- “I really need to know when the app wires out the money”
- “I would probably ignore the reminder notification”

Discussion

- *Clicking on a goal vs. checking it off*: All three users had difficulty or did not realize that the goals on the dashboard were clickable buttons which would lead to the goal info page. Two out of three users required the computer to intervene and advise the user. When we implement the UI, we will need to incorporate accordances like button shading and shadowing to hint to the user that the fields are buttons. In the lo-fi prototype the buttons looked more like text boxes. We may also experiment with moving these two actionable items - the checkbox and the goal page button - to different areas on the screen.
- *The “Choose Causes” interface*: All users were confused by and had difficulty navigating the “choose causes” interface on the “My Profile” screen. Since the customized pie menu is unconventional, we will either need to make the use more obvious by adding more labels and instructions or switch it out all together. Users did not understand what the pie menu was for and how to use it, indicating that the current design fails to communicate our conceptual model. The novelty and aesthetic of the pie menu may only serve to confuse users.
- *“Featured” charities*: One of our users told us that “featured” content made him think that charities had paid to advertise in the app, like featured content on Facebook or Instagram. Although we intended to indicate SpringBoard’s recommendations for effective or important charities, the categories of “featured” vs “suggested” and “related” were not clearly distinguished or defined. We plan to rename the category to avoid the misconception that organizations pay for a position in our app, and are considering options along the lines of “our favorite charities”
- *Navigation*: Our navigation in the paper prototype was not consistent across screens, and while some users faced no difficulties navigating the app, others ran into issues. Because the app has so few screens and tasks, we had, in the initial design, tried to keep the

workflow simple, with every screen leading to or from the central dashboard. However, our interviewees occasionally got lost in the app, indicating that we need to add more consistent navigation tools and signposts, like arrows and modals, in our next iteration.

- *Reminders and logging*: The experiment did not reveal either or not users will remember to log their progress on goals. When beginning the scenario starting with “you are very busy,” two of our interviewees noted that they would likely dismiss the notification, depending on what they were doing when it appeared. Since we gave them the goal of logging their progress, our subjects did, but it remains to be seen whether they’ll keep it up among the distractions of real life.

Appendix

Consent Form

The SpringBoard application is being produced as part of the coursework for Computer Science course CS 147 at Stanford University. Participants in experimental evaluation of the application provide data that is used to evaluate and modify the interface of SpringBoard. Data will be collected by interview, observation and questionnaire.

Participation in this experiment is voluntary. Participants may withdraw themselves and their data at any time without fear of consequences. Concerns about the experiment may be discussed with the researchers Tejas Shah, Clementine Jacoby, Julia Enthoven, Griffin Koontz or with Professor James Landay, the instructor of CS 147:

James A. Landay
CS Department
Stanford University
650-498-8215

landay at cs.stanford.edu

Participant anonymity will be provided by the separate storage of names from data. Data will only be identified by participant number. No identifying information about the participants will be available to anyone except the studentresearchers and their supervisors/teaching staff.

I hereby acknowledge that I have been given an opportunity to ask questions about the nature of the experiment and my participation in it. I give my consent to have data collected on my behavior and opinions in relation to the SprintBoard experiment. I also give permission for images/video of me using the application to be used in presentations or publications as long as I am not personally identifiable in the images/video. I understand I may withdraw my permission at any time

Name _____

Participant Number _____

Date _____

Signature _____

Witness name _____

Witness signature _____

Interview Script

Hi [NAME OF SUBJECT],

Thank you so much for volunteering to help us with this project. My teammates and I have been working on an app called SpringBoard that encourages users to meet their daily goals by magnifying personal success into positive social impact. We've created a low-resolution prototype of the app, and the goal of this interview is to get more insight about what is good about the prototype and what needs work.

We're going to give you a scenario and an objective, and we're going to ask you to try to accomplish that goal using our paper prototype as if it were your iPhone. Since this is a paper prototype, [COMPUTER'S NAME] is going to pretend to be the computer by reacting to what you do. So, for example, if you press "next," [COMPUTER'S NAME] will give you a different piece of paper representing the next screen. If you press or do something and nothing happens, that means it isn't pressable or doesn't trigger an event. There are some features that we couldn't fully incorporate into a paper prototype, so, in those cases, we'll tell you what is supposed to happen.

Don't worry if things feel awkward or forced; the whole point of this interview is to see what is intuitive and what feels clumsy. We're going to try to give you as little instruction as possible, so if you don't know how to do something just tell us what your confusion is and keep experimenting. Do you have any questions?

We want to hear as much of your thought process as possible, so I encourage you to voice your thoughts as you walk through the app. All feedback, positive, negative, and neutral, is useful.

Great! Just to give you an overview, SpringBoard is a behavior motivation app that ties your daily goals to charitable giving. When you accomplish a goal, money is given to a humanitarian cause of your choice.

SCENARIO 1: You have just been to the dentist, and she recommends that you stop drinking soda. You've heard about an app named SpringBoard and want to use it to boost your self-motivation and support your goal to stop drinking soda. This screen [hand public screen to interviewee] is what you see after you download SpringBoard.

SCENARIO 2: You are super busy, but still want to keep up with your goal to avoid soda. One way SpringBoard can help is by reminding you to keep to your goals and log your progress. The first day you have set your goal to avoid soda, you get a ding on your phone and this notification appears [hand notification screen]. Your objective in this task is to 1) show us how you would use the app to indicate that you had achieve the daily goal and 2) configure your reminders to set a SpringBoard alert to go off at dinner time also.

SCENARIO 3: You have been avoiding soda and donating to the WHO every day for the past week. Now, you want to see how your donations have supported the wellbeing of others! This task is open ended: starting on the dashboard, use SpringBoard to see your charitable impact and tells us what you think about the ways the apps links social good with progress.

Experiment Data

	User 1 (N)	User 2 (S)	User 3 (C)	Total
Create Goal	0	0	0	0
Reminder	0	0	0	0
History	0	0	0	0
Sign-Up	1	0	0	1
Profile (Personal info)	1	0	1	2
Dashboard (+ Goal)	2	0	0	2
Goal Page	3	1	0	4
Select Charity	0	3	2	5
Dashboard (Newsfeed)	1	3	2	6
Charity Profile	2	2	4	8
Choose Cause	5	3	2	10
Dashboard (Edit goal)	5	4	5	14

Critical Incident Logs

N (USER 1)

Public start screen

- Thinks the start screen is perfect and obvious
- “Do more” ironic because you want to start not doing something
- Thought that credit card information, always a hassle
 - Often a “nightmare” because you have to look up the security code and type in billing info

Profile

- Don’t look at history, because you don’t have any yet
- Icons - can’t quite figure out what they mean
 - “Homework button”?
- **Navigation:** Can’t figure out how to get out of profile
 - “Dashboard - I never even saw that”
 - penciled in

Dashboard

- Clicked on impact feed charity on the empty dashboard
- Don’t want to go from profile setup to empty dashboard; should go right to goal setting
 - “Straight from profile to setting a goal - that’s the whole point of getting the info”
- Impact feed: “Almost looks like an ad”
 - “results”, like on Google
 - “I think it is a little bit like a Google App, but I know that I scroll”

Goal entry

- Said that his goal would be “Not drink carbonated drinks”
- “Don’t want to donate \$50”
- Everyday? What are the unit

Reminder/Notification

- “If I’m super busy - dismiss”

Goal page and Setting a reminder

- Drag and drop
 - “You need to be able to drag up and drop” to add
- Match the plus sign with the minus sign.
- What does the garbage can do? “I really don’t know” - maybe zero reminders
- Arrow on the goal details: “Should make the streak shorter. But your streak should always be relatively short. You never want to let people know that they’re beating the expectation for the current streak”
- Go to running goal page: “Wow, I’m on a great streak for running”
- **Navigation:** To set a reminder, Nick presses “plus” rather than clicking on the goal itself
- May need arrows or something indicating interactivity on the goal list

My History

- Should move \$560 donation to the top
- “Phased” more by the donation
- **Navigation:** My History to goal page is difficult. It takes Nick a while to get back to the goal page
- Nick wants to make the items on My History clickable.

- He clicks on the text “80 different causes”

S (USER 2)

- Add or edit payment first
- Wouldn't click on history the first time they go onto their profile
- Select on “more” in the middle of pie menu
 - o “I would guess that is where I choose the charities I donate to”
 - o “Then (laughs) I would click on it again”
- *Positive*: Profile → Dashboard
 - o “I would click on the plus”
- Goal setting: Would write “Stop drinking soda”
- Choose charity: “I would scroll through things and search
- (-): Clicking on the goal - I thought that would indicate that is where I wanted to donate
 - o Would click favorite, thinking that would choose it
 - o “I'm confused. How do I pick [this charity]?”
 - o Not clear on when you have joined the organization
- To log progress: Would click on the checkbox next to avoid soda (+)
- To get to reminders, she goes to My Profile first
- On reminders: Adds by pressing
 - o What happens when you press the trashcan? She guesses that all of the reminders would go away
- First move is to click on the impact feed labels:
 - o \$2: Not clear where
 - o “Liked having the generic what \$2 can do, but here it should be specific to the world health organization
- My history:
 - o Number of goals met over time
 - o “Nice to see upward trending lines.” “But I don't know if it is the best diagram to use”
 - Maybe bigger, like 317 goals met, because it is clear

C (USER 3)

Task 1:

Sign up: Expected a keyboard (level 1)

- Press name - keyboard
- Impact, expected a graph
- My causes – “are these the organizations that I associate with?” (level 2)
- Seems a bit lost by tabs (level 2)
- Didn't notice the amount slider

Task 2

- Open app and clicked avoid soda
- Seems confused by newsfeed
- Can I click on these three dots? (level 1)
- If I add? (level 2)
- Create goal screen → Cancel
- Didn't understand that you could click on the goal as well as on the checkbox, got super stuck (level 5)
- (+) Understood the reminders

Task 3

Checked box

- Clicked my history
 - I met another goal, so the number of goals I've met would increase
 - Seems to understand the “my history” page well

- Dashboard: Clicked on the down arrow rather than scrolling the newsfeed
 - Had to point out that the news feed items were clickable (level 2)
- WHO page
- Click to favorite: “So now it will pop up in the profile, right?” (level 4)
- My profile – confused about the highlighting, what does that mean? I would think it would bring me an explanation of the organization