<u>ADDICTED BOIS MILESTONE 4 WRITE-UP AND DATA</u>
(All tests done using prototype)

<u>Heuristic evaluation</u>

For our heuristic evaluation, each of us walked through the app (prototype) on our own and came up with our own points regarding each of the heuristics. After this we came together and addressed various concerns and problems and agreed on the most important ones. Below is a recap of this group evaluation organized by heuristic. Following this is a list of the most pressing concerns we encountered.

1.Visibility of system status

Tabs at the top of the screen easily allow users to know which part of the app they are looking at. The user sees all of the information they input put onto the screen in the section where they typed, so they clearly know that the app retained that information. One potential problem is the user not knowing if they have completed the daily questions yet if they are on another tab. A potential solution to this would be a slight glowing of the Today tab while questions remain unanswered for the day.

2.Match between system and the real world

No technical jargon beyond the "Clear all Data" In the settings. This could be changed to something more familiar like "Erase all personal information". Additionally, mobile devices are easy for helping the user to understand what to press as all the potential things they can click on are clearly labeled, whether it be tabs or particular buttons.

3.User control and freedom

It is very easy for users to account for their own errors. For example, any daily responses can be changed at any point during that day if the user notices they made a spelling error or selected an incorrect box from a dropdown menu. The only concern here is that users are unable to edit daily responses from previous days; however, allowing them to do this brings up concerns on validity of old responses, or inexperienced users accidentally inputting today's daily responses on a previous date. It is easy to cancel actions like creating a new activity or changing settings.

4.Consistency and standards

The application will always do the same actions if the user presses the same buttons. Additionally, the only crossover for information is that the daily question responses get moved into the calendar at the end of the day. This should not confuse users as the date changing as well as the implications of the calendar both point towards this transition. Therefore, all information can be easily accessed from reliable locations based on which tab the user is under.

5.Error prevention

As our app is primarily focused on user's freedom, there is no need to prevent user access to data with the exception mentioned in 3. User control and freedom on previous days daily responses. We do include confirmation buttons on multiple screens to prompt the user to look over their work before saving an activity or creating a new account. As responses are too varying and nuanced from day to day, we felt it was important to have daily responses be open rather than selecting from a set of options.

6.Recognition rather than recall

Similar to in 1. Visibility of system status, the user does not need to remember what any actions do or how to use them, as everything is clearly labeled and visible. The tabs at the top show which section of the app the user is in and the calendar and daily responses always show the current date or the date being viewed.

7.Flexibility and efficiency of use

Our app intentionally avoids using previous days selections on craving levels and such to determine defaults as we believe every day's responses may vary heavily and we do not want to influence the user's choices. Additionally jumping to any particular information in the app should be quick and easy for both inexperienced and expert users as most information can be found on the surface level of the app, and specific dates in the calendar can be found easily by swiping through the months.

8.Aesthetic and minimalist design

The design of the app is focused on warm colors with a lighter blue being used as the color for confirmation buttons. This is meant to be minimalistic with decoration while invoking a calming tone. The only break from this is the solid red button in the settings to indicate that it is something that cannot be reverted and should only be pressed if the user is absolutely sure that it is what they want to do.

9.Help users recognize, diagnose, and recover from errors

This prototype did not include error handling for potential cases where the app couldn't store or read input that the user provided. This is something that would need to be added due to the potential confusion it could cause the user.

10.Provide suitable help and documentation

Most of the potential commands that the user would need to use are clearly labeled and require no additional help. The two ways that the app helps the user without them noticing is by starting them on certain pages based on if they have already created an account and if they have already completed their daily responses. If they have not created an account it starts them on the account creation page and if they have an account but have not done the daily responses for that day it will start them on the daily response page. If they have done both, the app starts on the calendar page.

Overall problems:

    (1.) the user not knowing if they have completed the daily questions yet if they are on another tab - Severity 1 (relatively easy to fix as well as minor impact on the user)

    (2.) "Clear all Data" In the settings - Severity 1 (should not be an issue for any users familiar with computers)

    (9.) This prototype did not include error handling for potential cases where the app couldn't store or read input that the user provided - Severity 3 (likely to cause issues with names in other languages or non-standard characters)

Takeaways

    Moving forward, especially if our app is to be released for an international audience, our third concern should be rectified. The other two are significantly easier to rectify and do not affect the user very much at all. We felt that, on the whole, the heuristic evaluation proved a useful tool in addressing what did and did not work about the prototype and reaffirmed a lot of our choices about the way in which to design our interface.

COGNITIVE WALKTHROUGH

    One of our members conducted the cognitive walkthrough and KSLM analysis on his own and presented us with his results which are presented below.

Goal: Complete Daily Responses:

Starting condition: opening the app before completing the day's daily responses

Ending condition: fully completing the day's daily responses

    1.Select craving level

    2.Describe how they are feeling

    3.List triggers from today

    4.Select complete daily entry

The user recognizes that the three fields are necessary to complete their goal as they are the daily responses that the user intends to fill out. The fields are easily labeled with their respective question. The first problem here is that the question disappears after the user begins typing. This can confuse feedback, as while the user will see their input appear on screen, the lack of the question may make the input seem out of context. Additionally, the complete daily entry button becomes available as soon as a single one of the first 3 steps is completed, leading users to think that not all fields are necessary.

Proposed solutions:

Write the question above the input field rather than inside of it.

Make the complete daily entry button only available after all three fields have been filled out by the user.

Goal: Create an account:

Starting condition: opening the app after downloading but before creating an account

Ending condition: having an account and gaining full access to the app

The app starts the user off on the account creation page

1. Enter name
2. Enter habit
3. Enter goal
4. Click complete and finish account setup

The user must recognize that the first 3 steps are necessary for the last step as the button to complete account setup will not appear unless the previous 3 are completed. All locations should be obvious as they are clearly labeled with Full Name, Habit, and Goal respectively. After actions are taken to complete these steps, the user is given feedback in the form of their input being shown on the account creation page.

Predictive evaluation (KSLM):

KSLM with increase in keystroke time due to lower typing speed on average on mobile devices

K - keystroke(.3) P - point (1.1) B - click (.1) M - mental (1.35)

Tasks -

Account Creation:

Click on Full Name and type user's full name -

$M + P + B + 15K = 7.05$

Click on Habit and type -

$M + P + B + 20K = 8.55$

Click on Goal dropdown menu and select an option -

$M + P + B + M + P + B = 5.1$

Select Continue-

$M + P + B = 2.55$

Overall - 23.25 seconds

Daily Responses:

Select Craving Level dropdown -

M + P + B + M + P + B = 5.1

Describe daily feeling -

M + P + B + 120K = 38.55

Describe daily triggers -

M + P + B + 15K = 7.05

Hit complete -

M + P + B = 2.55

Overall -

53.25 seconds

Add an Activity:

Select NEW -

M + P + B = 2.55

Input Activity Name -

M + P + B + 19K = 8.25

Input Activity Description -

M + P + B + 25K = 10.05

Select Add Activity -

M + P + B = 2.55

Overall -

23.4 seconds

We chose account creation and daily responses as tasks to measure as they are absolutely essential and at the core of our app's design. We chose adding a new activity because it was one of the more involved yet not necessarily integral parts. It involved both a heavy amount of navigation and text entry which made it a good contender for measuring our apps navigability and the speed with which our interface can be used. The cognitive walkthrough brought forth a few issues that we plan to rectify is we decide to move forward on the development of the application. Particularly, leaving the prompt visible when the daily response is being filled out, as this may prove slightly troublesome for the novice or forgetful user. For similar reasons, it may be fruitful to not make the response commit-able until all steps are completed, rather than making it so after just the first is completed.

THINK ALOUD REPORT

Tasks

1. User creates a new account from the account creation screen. The app will require their name, the habit they want to reduce, and the level they would like to reduce it by.

2. User creates a new activity that helps them reduce their habit. The app will require an activity title and description.

3. From the 'Today' tab, user navigates to to the Calendar tab and views the daily log from October 29th.
4. From the 'Today' tab, user navigates to to the Settings tab and changes the reminder frequency to 3 by using the slider.

USERS

1. Female University Student
2. Male University Student
3. Male Sales Representative, Married with Children, Middle Aged
4. Female, Retired, Married with Children
5. Female, High School Student

RESULTS

User 1	Task	Completion time	Transcription
	1	42.04s	"Okay, I'm typing in my name. Hmm I'm not sure what my habit would be. Can I put social anxiety? (Pause) Ok, anxiety is my habit. I want to... reduce habit. Continue..., oh, am I finished?"
	2	28.69s	"I think a good activity would be.... um I'm not really sure... can I just put anything? Ok, I'll do napping then. *Laughts* Description.... sleep?"
	3	9.17s	"Ok I just need to do Calendar... october... oh, that was so fast!"
	4	10.03s	"Ok not so bad, just open settings. Looks like this little bar here... did I do that right?"
User 2	Task	Completion time	Transcription
	1	37.13s	"Let's see, full name... should I include my middle name? Nah, I won't. I think my worst habit is picking my skin. I would like to stop picking my skin... completely aaand done!"
	2	82.02s	"Okay this one looks easy enough. Wait, how am I supposed to keep myself from...? *pause* Ok, uhhhh maybe I can do something else with my hands. Draw? Yeah, I can draw. Ok

			I'll put that, let me just add a description..... uhhh... full picture.... five minutes? No, wait. Ok ok sorry I think this is good enough."
	3	9.37s	"Calendar...back a month... this one... great, done."
	4	8.73s	"Settings tab... just gonna move this guy back a few notches"
User 3	Task	Completion time	Transcription
	1	57.82s	"Okay, let's see what I'm doing here... I type my name in this box? Ok... habit... let's just say smoking. I should probably quit smoking right? That would be healthy. But I'm old anyway, I'll just cut back. Okay, is that it?"
	2	66.16s	"An activity to help me stop smoking, right? Ok, uh, what is it they're doing now? Vaping? Yeah I'll put vaping haha. How would I describe vaping? Smoking... but not with smoke. Ok."
	3	16.23s	"Let's see... oh I guess it's the one that says Calendar. I just tap this? Oh, cool. Here's 29.. wait, that's November 29... oh here it is. And 29 again..."
	4	17.32s	"Ok so I just hit this one like the other one... now I'm gonna change the setting to.. wait that's not the right number. Geez, this thing is small."
User 4	Task	Completion time	Transcription
	1	63.41s	"Great, I just start with my name... (muttering letters)... will anyone see what I put for my habit? Ok, it's just embarrassing. Anyway.. where was I? Oh yes, um what does this mean? Oh It's a drop down menu... ok I'll pick stop completely. All done!"
	2	58.43s	"Oh I know just what to put! Great, just a description. I'll make it nice and polite."
	3	14.91s	"Do I just tap this? Ok now I need to.. change the month.... oh this is hard to

			see... wrong one... ok I think I've got it."
		4 19.22s	"Oh this is just like the last one! Umm, is that it? I just move it with my finger? Oh I like this! It's kind of small though. 3, right?"
User 5	Task	Completion time	Transcription
		1 29.12s	"Name? (Spelling name aloud) Boom. Okay, I should use instagram less according to my mom!"
		2 28.21s	"How do I stop using instagram? I'll just put homework, whatever. I probably won't do it though."
		3 8.72s	"This is so easy. Calendar, not this month, 29."
		4 9.03s	"Settings is right there, the bar is right here, just gotta move it!"

Setting

These interviews were done in by our member Edward Mortimer in his hotel room with his family, and in his home with his roomates.

Takeaways

We chose these tasks because they represent most wholly the entire functionality of our app. We feel that demonstrating these tasks would be an effective way to determine how effective our app is in total. It seems that creating an account was the task which took the longest, which makes sense, as this task presents the user with a new environment and interface they must digest and understand. It was good to see how easy the participants found the other tasks as well, particularly the latter two, which we feel demonstrate mostly the ease with which our app is navigated. It does seem that maybe we should add a couple of suggestions for the activity portion of our app, as some may have some difficulty thinking of one they should do; however, this may not be a good idea. We want the user to choose something that is particularly interesting to them as an individual and not some pre-prescribed notion of what they should do. This is a question we will have to seriously consider moving forward.

RETROSPECTIVE TESTING INTERVIEW

Task Description

1. User creates a new account from the account creation screen. The app will require their name, the habit they want to reduce, and the level they would like to reduce it by.
2. User creates a new activity that helps them reduce their habit. The app will require an activity title and description.

3. From the 'Today' tab, user navigates to to the Calendar tab and views the daily log from October 29th.

4. From the 'Today' tab, user navigates to to the Settings tab and changes the reminder frequency to 3 by using the slider.

Users

1. Male Physician, Middle Aged, Married with Children
2. Female Office Assistant, Middle Aged, Married with Children
3. Female College Student
4. Male College Student
5. Male College Student

Highlights

Only responses that explain unexpected or irregular user behavior have been included

User	Task	Response
2	1	I tried to add a second habit because I have two negative behaviors that I would like to reduce.
3	2	I initially clicked on "Activity One" instead of "NEW" because I thought they were placeholders that you were supposed to fill in as you set up your user profile.
3	2	I thought that clicking the selection button to the right of the added Breathing Exercise Activity would add it to the list of activities to remind me from.
4	4	I clicked the "Morning Notification" button because I thought that that would be part of changing how often I would get reminders.
5	4	I clicked on the "Activity Reminders" button in the Settings tab without really reading the whole screen so I missed the "Reminder frequency" slider.

Setting

These interviews were done by our member Donald Dunagan in each person's respective living rooms around noon.

Takeaway

It seems that at the least we may need to provide more clarity about the functionality of our app. While adding a second habit is something that we thought about, overall we decided it was a bad option. It has been shown that changing one habit at a time is more effective and a lasting transition than changing multiple habits at once for the average person. Also, I think instead of nondescript placeholders, it may be fruitful to add more thought out examples in our prototype to show what it

would actually look like rather than "Activity one" etc. The activities seem to be something that we may need figure out moving forward.

<u>QUESTIONNAIRE</u>

Below are the results for each question of the questionnaire which was provided to our participants, in the order in which they appeared.
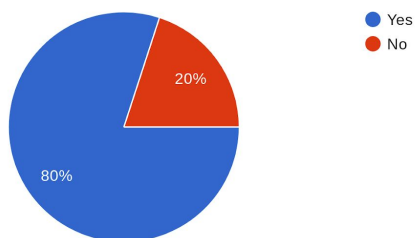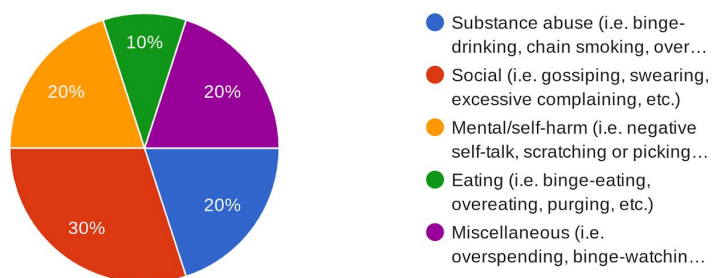
What is your age group?
10 responses

Legend:
- Below 18
- 18 - 25
- 26 - 35
- 36 - 45
- 46 - 55
- Over 55

Pie chart values: 20%, 20%, 10%, 50%
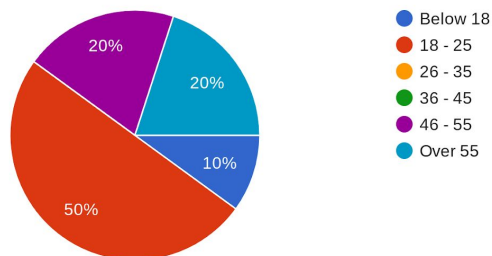
Do you currently have a negative behavior that you are trying to reduce?

10 responses

- Yes
- No

80%
20%

What category does this behavior fall in to?

10 responses

- Substance abuse (i.e. binge-drinking, chain smoking, over…
- Social (i.e. gossiping, swearing, excessive complaining, etc.)
- Mental/self-harm (i.e. negative self-talk, scratching or picking…
- Eating (i.e. binge-eating, overeating, purging, etc.)
- Miscellaneous (i.e. overspending, binge-watchin…

10%
20%
20%
30%
20%

How long have you had this behavior?

10 responses

- 0 - 3 months
- 6 months - 1 year
- 1 - 3 years
- 3 - 7 years
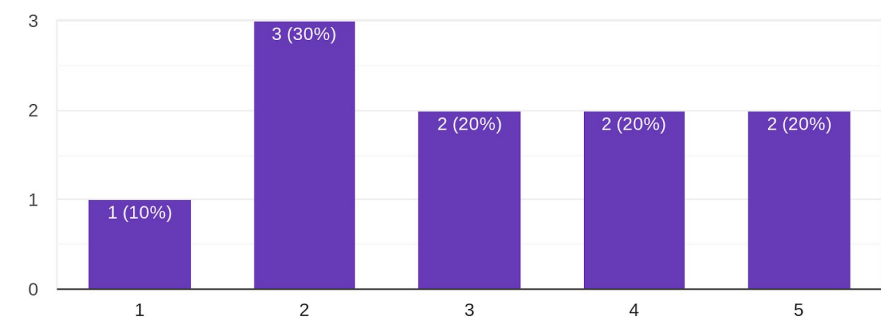- 7+ years

20%
20%
20%
10%
30%
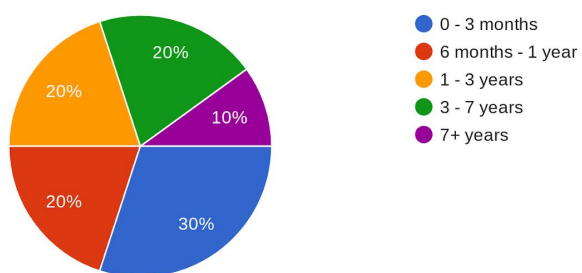
On a scale of 1 - 10 how much does this negative behavior affect your daily life?

10 responses
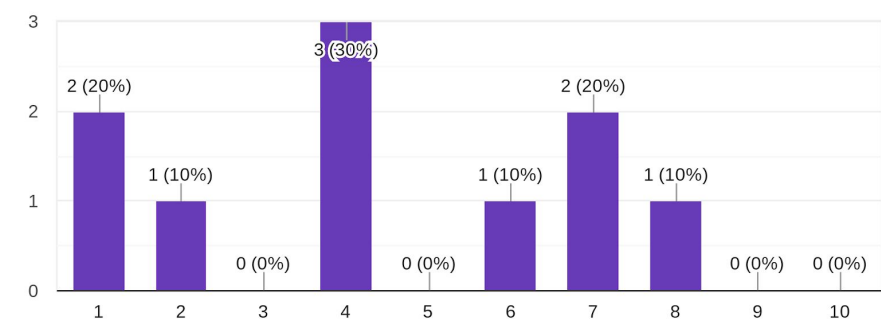
How helpful do you think this application would be in reducing your negative behavior?

10 responses

What did you like best about the application? 10 responses

1. the reminders for behavior modification
2. The daily reminders
3. The instructions were very easy.
4. The home screen was really pretty! I liked the colors a lot.
5. The interface was nice, I felt comfortable using it and it didnt hurt my eyes or anything
6. It looks professional, like something you would pay money for. Pretty easy to use, even for an old fart like me.
7. It seems like something that would help me stay accountable!

8. It helps me with my problems
9. That you can set the frequency for how often you would like to be reminded
10. I like that the app is not judgmental or condescending about my behavior

What would you improve about the application? 10 responses

1. ease of use
2. maybe have an example
3. None
4. I didn't really understand how it would work for me, like how it would help my problem?
5. It was kind of hard to come up with activities that could help me, maybe if there were some kind of suggestions?
6. I just made up my bad habit but I probably have one I could have put. Is there a way to add more habits?
7. The calendar numbers were hard to see
8. It's kind of boring. Maybe add like points to it
9. I would add in some more attractive looking graphics or visualizations
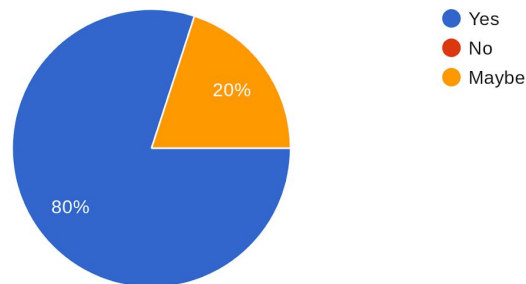10. I would add more features

Overall, how satisfied were you with the application during your experience?

10 responses
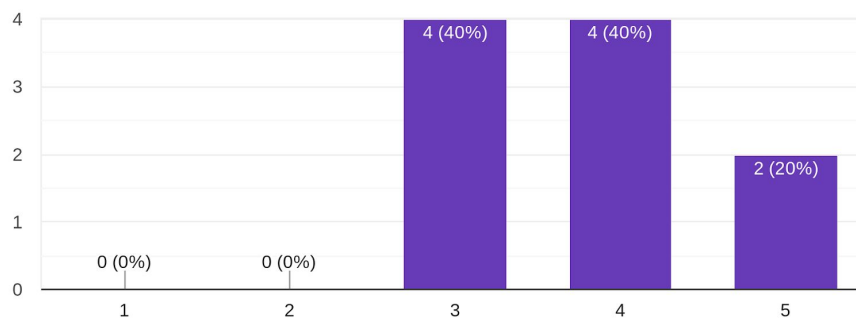
Would you recommend this application to a friend or family member?

10 responses

Legend:
- ● Yes
- ● No
- ● Maybe

Pie chart: 80%, 20%

Ranked Question: Please rank the five tasks in order of increasing difficulty.

User	Easiest			Hardest
1	1	3	4	2
2	3	1	4	2
3	3	1	4	2
4	3	1	2	4
5	3	1	2	4
6	3	4	2	1
7	4	3	1	2
8	1	2	3	4
9	1	2	4	3
10	4	3	1	2

SUMMARY

    Overall, it seems as if the functionality is as we would like and expect. Our "activities" portion clearly needs some attention and we think a good way to solve some of the issues would be to either include suggested activities, or to make sure the user knows that they should take some time to come up with some activities which really work for them personally. We want to make sure that the approach we are taking is very user-centric and does not attempt to tell the user what is best for them at any stage.

    Moving forward we think the development of the prototype will be rather straightforward. The interface and color scheme have shown to be well received and pure functionality can be focused on. At the very least we may need to add some ways to keep the user informed about what information they're entering and at what stage of that entry they're on. If we had another semester to work on the project we firmly believe we would be able to deliver a working product, and the actual functionality of this product is not far off from what we currently have.