INFSCI 0410 Human Centered Systems
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Wake Up

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Table of Contents

Introduction/Problem Space

Our application design is based on the knowledge and understanding that in today's society the use of a smartphone plays an important role in day-to-day activities. Smartphones can be helpful in many cases but in some it can be a hindrance to productivity such as delaying someone from getting out of bed in the morning which can have a trickling effect on their day. Our application is aimed at helping college students and young professionals who may have a less than ideal morning routine that revolves around spending a copious amount of time on their phone first thing in the morning transition to a more productive morning routine that gets them out of their bed sooner.

Target audience

This application is targeted at college students and young professionals who want to change their current morning routine or build upon their current one.

Data gathering techniques

Lab 10 Requirements/Personas
https://docs.google.com/document/d/1Gs0Ci7aAZQTuT6Fm96m2IhgqLvxdTvJgN8npaN4cz7U/edit
The two personas we ended up choosing were an active person who starts their day with exercise, and an inactive person who prefers to stay in. They generally had different answers to our questions, as they had two different schedules. However, there were similarities in what they would prefer from an app that would help them: incentives, the promise of accountability, and the boost in self-esteem.

Google Form - Lab 11
https://docs.google.com/forms/d/127tB1FqCCbz0fFOZAWhWr_B0x8zOnYDH8sTCQXxaSiY/edit?ts=641a3f77#responses
The user responses from our survey also helped us create a more well-rounded picture of what the app should be. The majority of responses admitted to wanting to improve their sleep schedules and would improve if they had something that made them take accountability, like an app that shares their successes.

In summary, the responses we received helped us form a more accurate picture about the type of user using our app. We took into account the general theme of accountability and productivity–the motivation to wake up early is already established, and having unavoidable incentives would force users to follow through with this. With this in mind, the app would have to encapsulate features that placed both external pressure and internal drive onto the users, without necessarily alienating anyone.

Video illustrating users and problem space:
https://youtu.be/7lfybYcWbpY

Descriptive/experimental design research related to project
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9548674/

Study on people who snooze their alarm in the morning as a part of waking up. Found that 57% of participants do snooze their alarm, which shows that there is a substantial audience for our app. It also found that younger participants were more likely to snooze, meaning that we should not focus on targeting older people who most likely wouldn't use/need the app.

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6986749/
Study on alarm tones effect on sleep inertia (period of sleepiness after waking up). Could suggest that the alarm sounds for the app should be more melodic/rhythmic for less sleep inertia to help users wake up faster.

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4217706/
Shows there are negative effects for sleeping too long, or more specifically, longer than usual. Demonstrates that there is a need for our app, to ensure people are sleeping not just a healthy amount of time, but also doing it *consistently.*

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9643910/
Finds smartphone use in bed has negative effects. Shows the importance of the aspect of our app to lock the user out of their phone so they aren't using it while they are in bed.

Competitive products
Lockable Alarm Clock:
https://apps.apple.com/us/app/lockable-alarm-clock/id820292105
This is an app that locks your alarm so that you can't change it until after it goes off in the morning. It has the flaw of being able to simply dismiss and ignore it in the morning. It is very basic and not much of an improvement from the default alarm app that comes with most phones. It shows us that we need to come up with better ways to circumvent ignoring the alarm.

Walk Me Up!:
https://play.google.com/store/apps/details?id=com.moosa.alarmclock&hl=en_US&gl=US&pli=1
An app that doesn't stop ringing until you walk a certain number of steps. Fairly similar to the idea for our app, but according to reviews, there are loopholes in it, like being able to continually snooze it. It generally has many bad reviews because it supposedly doesn't work well. If our app were to be a real, complete product, it would easily overcome this by simply doing what it is supposed to do, which this competitor seems to have issues with all its bugs. We also need to make sure to prevent loopholes.

Alarmy:
https://apps.apple.com/us/app/alarmy-alarm-clock-sleepsound/id1163786766
This app forces you to complete some task to turn it off. Things like shaking the phone, solving math problems, or taking a picture of a specific place. Shows that we will need some more creative features than simply walking to turn off the alarm, which is where our idea for adding social components to our app comes in.

Purpose and benefits of your product/interface
The main purpose is to help people get out of bed at a more desirable time. Staying in bed after an alarm goes off seems to be a somewhat common habit that most people who struggle

with it have some desire to improve their ability to get out of bed right when they had planned. Not to mention that having a consistent sleep schedule also brings many health benefits.

Constraints, limitations, and problems in the problem space

Trying to hold people more accountable for getting up at the time they intended can be difficult; people will always find ways around it if desperate enough. Also, people need to be *willing* to download this app that will surely annoy them in the mornings; how much do people really want to get rid of this habit of theirs? Then we also have to consider if people would just delete the app once they get annoyed with it. On the other hand, continual use can become an issue in the long run. If the app is successful in helping develop a better morning routine when it comes to getting out of bed, then once it becomes a habit, the person may not necessarily need the app anymore.

Other problem spaces we considered

We considered tackling the issue of making room for both physical *and* mental health, though this idea seemed much too broad, and potentially generic, of a problem space. Another problem space we thought about was the difficulties of touring and renting apartments for college students. We ended up deciding that it might be difficult to really make this one much more interesting or unique, or a way to reasonably attract users given the fact that it is maybe too specific. We ultimately decided on the difficulties of getting out of bed in the morning as our problem space because it generally felt like there was more room for creativity, and more of a wide-reaching issue while not being overly broad.

As discussed in class, these problem space considerations are so popular because they're necessary. However, we also discussed the importance of developing apps similar to other ones–this indicates that the problem space is viable, but also engenders room for improvement. With this in mind, we were confident in our app's problem space, as the task of waking up early is something that has yet to be widely optimized.

Team Dynamics

Team Roles
Abby - Leader/Manager
Sreeha - Research
Nix - Research
Marko - Powerpoint
Michael - Research

Collaboration tools used

We have continually used Google Docs and Google Drive as a means to work on the project asynchronously. We don't need to meet up in person as often because of the convenience Google Drive gives us. We have also created a group chat just to be able to easily communicate between classes. Sending an email, even though it is a useful tool, seems limiting in the type of communication we get to exercise. Texting is, again, much more convenient. We also used google slides as well as figma to collaborate on hi-fi and visual representations and create our presentation of our app and problem space.

Conflict resolution

While we tended to work well together as a team, we used our different perspectives and ideas to enhance our app. We disagreed on what the home screen design should be, as we weren't sure if using the metaphor and visual of a bedside drawer would be cohesive with what the other screens looked like. The drawer seemed like it wouldn't flow well, as we had a day/night theme across the other screens. However, instead of completely scrapping the idea, we compromised by simply turning this design into just the login screen. We also decided to incorporate a sun/moon design on the drawer as well, which made the login screen way more cohesive.

Product

Major features

These are the major features of the app, ordered from most to least important:

- Incentive to start waking up at a healthy time, or continue to do so: This can be seen in the alarm clock, which is not disabled until the user has reached a certain amount of steps away from their bed.
- Accountability to hold them to this: This feature is implemented through a streak system for the user, incentivizing them to continue their streak.
- Self-esteem + lifestyle boost from doing well with waking up: As the user develops a habit of waking up earlier, the app provides them with points to compete on a leaderboard.
- Competing/bonding with friends: With the leaderboard feature in mind, users are able to compare their progress with other people.

Unique/special value of the top three features

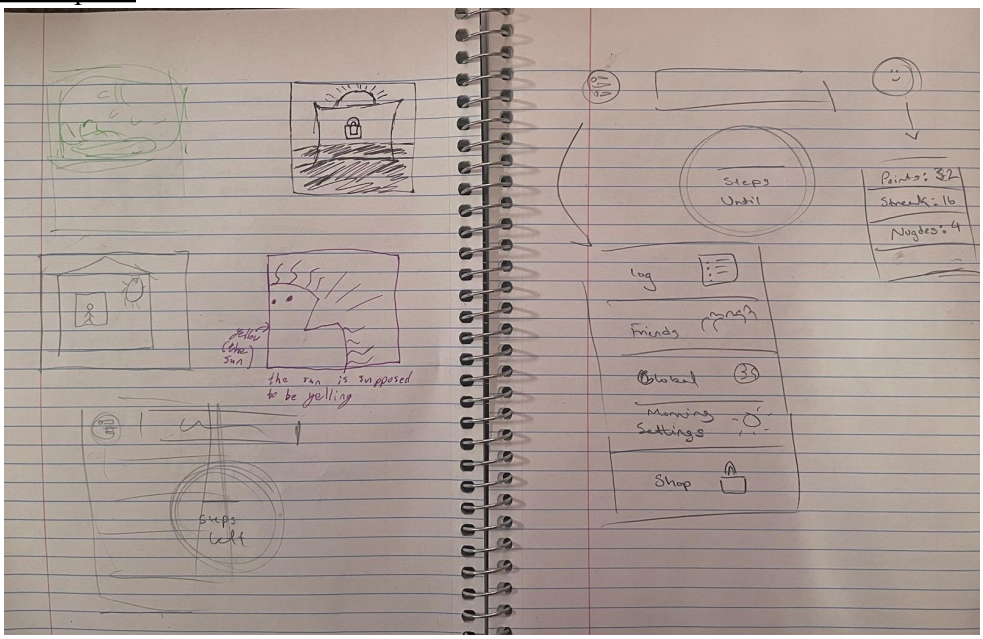
It's important to our target audience that they adhere to the schedule that they set and improve for themselves. This app is merely a tool to motivate them to wake up "on time," whatever that means for them. This tool is not only for holding themselves accountable, which is where most wake-up apps stop, but also gives the opportunity for their peers and others to hold them accountable as well. We have received feedback that many people would be more incentivized to adhere to their set alarm if they had someone to make them liable to their actions.

Joy of Use and Joy of Life

We have a reward system that rewards people for waking up on time continuously, which will be a key motivator. This system of streaks and a leader board would let people have an outward trophy to represent their adherence to their schedule. This showcases the Joy of Use and Life, because the design ties to the user's emotions and helps them along their goal. If we connect to their self care and self improvement journey by tracking and rewarding their good behavior, then we successfully fulfill a Joy of Use and Joy of Life scenario.

Lo-Fi Prototype

Examples:



Use of lo-fi prototypes to generate discussion

By having each member create a home screen app design of their own, it allowed for the group to openly compare ideas and decide which is the most suitable. It also allowed us to more easily iterate and build upon design ideas without fully committing to its total implementation, affording for a more flexible design process

What changed?

Developed a potential layout and interactive menu. Considered the flow of user interaction and the ease of usage, redefining the prototype to better fit user needs as opposed to our own initial design ideas.

Hi-Fi Prototypes

Tool used: Figma

Examples:

Use of hi-fi prototypes to generate discussion

We were able to visualize what we wanted the opening screen to look like and discuss what we liked and didn't like. The nightstand look and opening of the drawer was a result of the consolidation of our ideas. This made discussion much easier because we could individually make changes and it would pop up on everyone's screen which helped us to show the small visual changes that were difficult to articulate. Once we were through the opening screen and the background we were able to each work more individually on a select screen now that the group had a vision of what the layout would look like and we could then work on incorporating features into the hi-fi prototype which is when the hi-fi prototype started to come together.

What changed?

We created a set login screen as well as multiple labeled tabs that a user can click on to switch between. The creation of one screen that has the tabs in it was a large change from the sidebar shown in the lo-fi prototypes as was adding in an interactive button that changes when you have completed the ~15 steps. This is a large interactive screen where the user clicks the button and we were able to visualize and create the before and after screens of what happens once the user actually gets up and out of bed. Another thing that was settled was a consistent background for the pages once the user has become active and then the same background for the time they are supposed to walk and get up just in a dimmed version to be friendly on the eyes to someone who just woke up.

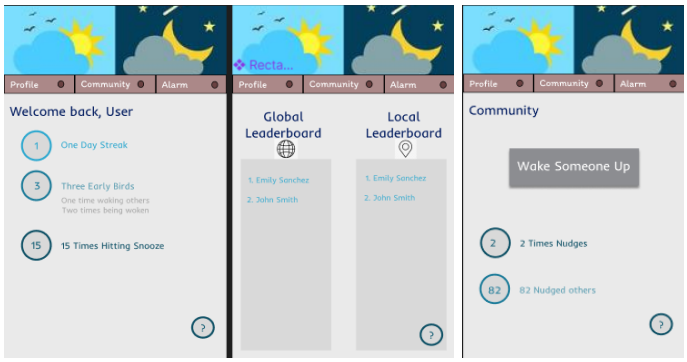
Evaluation

Evaluation techniques and process

It was important to gain feedback from other people in the class, as they were able to consider the product without any initial bias or expectations; as a result, they gave us valuable advice on how to make the product seem more appealing, intuitive to use, and engaging for the user. It was also interesting to have several days in between the project in which we didn't look at it: each time we went back to working on it in class, group members would come in with new ideas, new approaches to the current design, and different suggestions on how to make it better.

Changes after evaluation

We started to gain a cohesive understanding of what questions users would run into when opening and using the app. As a result we added the info button in the lower right corner which works as a Help/FAQ tab that would give the user information while keeping them in the app. After evaluating the app we realized that we didn't have a way to interact within the app. We started developing the community aspect of what we would include in the app: nudges, leaderboards and streaks. This led to the filing out of the brown tabs: community and profile, which (we think) were overall improvements as two of our goals was to let users "nudge" one another to get out of bed as well as to have multiple leaderboards to help encourage people to continue their streaks for the eventual glory of being on the Wake Up app leaderboard.



Attribution

Who did what in this project document (in each of our own words)

Nix:
I did the research to find the descriptive and experimental research that related to the project, and wrote the summaries for them. I looked into the competitors to our app and described those. I also wrote up the sections for the purposes/benefits of the app, issues in the problem space, and our consideration process of the other problem spaces we ruled out. I did the design of the login screen of the hi-fi prototype. I set up the initial formatting for this document, including cleaning up the outline a bit, making minor revisions to a few of the sections along the way.

Sreeha
I contributed to the Product Description as well as the Team Dynamics summaries, giving a few general points and then elaborating on them. I also sketched out half of the Lo-Fi design and facilitated discussion about design concepts within the group. I conducted user surveys and added in questions to make the process seem more natural to the interviewee, while trying to add as much information as I could. I also provided the placeholder name “Wake Up” that eventually became our title name for the app. I also provided general summaries for the Lab 10 and 11 data gathering techniques.

Marko:
I contributed to the final paper outline, especially the hi-fi prototypes and the additional changes to the figma designs of the prototypes, as well as the presentation slides and video. The ideas in the presentation and video are the main ideas of the overall problem space as well as what went into the project that I put organized into a slideshow and made a real-world example video of a person who uses the app vs. someone who does not. Also responsible for data collection for surveys and personas during labs which were later used in the outline.

Abby
Contributed to the final paper outline, further elaborating on the points that my teammates provided. Collected the other member’s ideas and prompted them for their input in order to coalesce as many perspectives as possible. Responsible for the write-up and processing of several in-class labs. Constructed several screens and the main designs for the hi-fi prototype.

Michael
I contributed to the final paper outline and during the product development phase. Throughout the design process I collaborated with my teammates and we bounced ideas off of each other in order to help each other. I helped create some of the questions for both the survey and the interview and assisted with the process of creating the personas. Assisted with a portion of the low-fi prototype.

Closing section

What we learned, challenges, questions, and suggestions

We learned the value of pre-production in product development–understanding the problem space, user research, and lo-fi prototyping were all key ideas in successfully working on this project.

Most challenges stemmed from an unfamiliarity with Figma and its interface. Learning how to digitally design the page so that it would reflect the visuals within our head was challenging, especially when working within time-restricted labs. If possible, we probably would have benefitted from having more in class time to mess around with the application and get to learn it better, in order to implement our different design aspirations more seamlessly.

Another challenge stemmed from trying to get into the headspace of the user. It's difficult to imagine the app from a consumer's perspective, as the navigation and features all seemed intuitive and obvious to us, the designers. The feedback and iteration sections of the project helped us evaluate the choices we made more effectively, allowing us to take a step back and rework the product toward something that was more easily accessible.

The main suggestion we would have for this project for future classes would be more emphasis on the design aspect. It was nice to have creative freedom and an open-ended approach, but we felt there perhaps too much emphasis on design philosophies and research rather than practical applications. It would've been nice to spend more time with basic principles, like composition, color, or different interaction flows.