



R E L A X

## RELAX FINAL REPORT

LANI MENESES, COURTNEY MIYASHIRO,  
AND CHANCE ST. CLAIR

SMAD 317

May 5th, 2021

# Table of Contents

Chapter 1: Executive Summary .....	2
Chapter 2: Problem Statement .....	3
Chapter 3: Related Work .....	4-6
Chapter 4: Design Process .....	7
4.1: User Research .....	8
4.2: Personas .....	9-10
4.3: Scenarios .....	11-12
4.4: Storyboards .....	13-14
4.5: Design Requirements .....	15-19
Chapter 5: Design Solutions .....	20
5.1: Low-Fidelity Prototype and Feedback.....	21-25
5.2: High-fidelity prototype and Evaluation.....	26-31
5.3: Usability Testing and Design Recommendation.....	32
5.3.1: Participants .....	33
5.3.2: Testing Methods .....	34-36
5.3.3: Findings and Recommendations.....	37-41
Chapter 6: Conclusion .....	42
References .....	43

# EXECUTIVE SUMMARY

We created Relax with the mindset of the current state of the world, and with an effort to better the ever present issue of the importance of mental health. Although we recognize the market for mental health awareness apps has begun to increase over the recent years, there have been evident user problems due to short overall productivity and issues with the interactions being sustainable and user friendly for the targeted audience. Our app has reviewed these issues and taken into account numerous feedback to create an appropriate resource for users with mental health struggles.

Relax is not only a suitable and sustainable experience for our target audience, but it also further encourages to be interactive with others and further one's education on a range of themes revolving mental health awareness. When we began our user research, we reached out to those who were seeking for support, had previous experience with technology, and those who were willing to work with us to create an appropriate resource. Our target subjects ranged from college students, to working adults in their mid to late twenties. All of these subjects were currently looking to improve their mental health or willing to interact with our app to see its results. It was evident from our first usability test, that all of our subjects enjoyed the interactive format of tracking their daily moods and navigating through informative resources.

Our goal was to create an experience for the user as well as something that would be effective in bettering their mental health. The users found it easy to navigate, accessible and the format and layout intrigued them to browse through information, resources and social forums. The social aspect of our app, where the user can interact with other users and their own social circles was also something that was well received. The users have the option to keep their privacy, but also have the option to have conversations with others about the significance of mental health, which is the team's overall hope to continue having these important conversations.

Overall, it is with our utmost effort to encourage users to use these resources for their betterment, as well as for them to have a positive and interactive experience with the subject of mental health.

# PROBLEM STATEMENT

College students and adults need to be able to have a free, effective, and more personal way to express, track, and cope with their mental health problems that can be caused by school, work, and personal life issues because it is important for those who struggle with their mental health to be able to have positive guidance without dealing with the stress of finding and affording good therapy or using ineffective, subscription based apps that don't offer much help.

# RELATED WORK

## 1. Headspace, Smiling Mind, and Evernote

Flett, J. A., Hayne, H., Riordan, B. C., Thompson, L. M., & Conner, T. S. (2019). Mobile mindfulness meditation: a randomised controlled trial of the effect of two popular apps on mental health.

*Mindfulness*, 10(5), 863-876.

[https://www.researchgate.net/profile/Tamlin\\_Conner/publication/328635736\\_Mobile\\_Mindfulness\\_Meditation\\_a\\_Randomised\\_Controlled\\_Trial\\_of\\_the\\_Effect\\_of\\_Two\\_Popular\\_Apps\\_on\\_Mental\\_Health/links/5bf089bb4585150b2bbdd928/Mobile-Mindfulness-Meditation-a-Randomised-Controlled-Trial-of-the-Effect-of-Two-Popular-Apps-on-Mental-Health.pdf](https://www.researchgate.net/profile/Tamlin_Conner/publication/328635736_Mobile_Mindfulness_Meditation_a_Randomised_Controlled_Trial_of_the_Effect_of_Two_Popular_Apps_on_Mental_Health/links/5bf089bb4585150b2bbdd928/Mobile-Mindfulness-Meditation-a-Randomised-Controlled-Trial-of-the-Effect-of-Two-Popular-Apps-on-Mental-Health.pdf)

This study helps us better identify the issues and solutions with various platforms and their data on usage. Engagement is the primary focus. This study addresses mental health and hyperfocus-finding ways to relate and interact with the users while they are distracted by college work and life. The study did a good job in that it evaluated the engagement very closely while also providing a control group. The article narrowed in on their research claiming that young college students cannot keep up a routine due to stress and college related activities and work. They check their phone, but they usually text or use social media and nothing else. Our app would take inspiration from this engagement study and focus on sending users reminders or alerts in order to persuade them to use the app in order to prioritize their mental health, which has proved to help and keep them engaged. Students often feel stressed by college, which is something that they are passionate about and part of the current stage in their life. There is no option to eliminate this stressor which is a frustrating aspect. This is a driving force for why our app will compliment each user differently in order to help them with their individual needs.

## 2. “DeStressify” App

Lee, R. A., & Jung, M. E. (2018). Evaluation of an mhealth app (destressify) on university students' mental health: pilot trial. *JMIR mental health*, 5(1), e2.

<https://mental.jmir.org/2018/1/e2>

This journal identified the design problem of providing a source at little to no cost for mental health improvement. Ultimately, it identified the financial factors as the design problem that pose as barriers for users/general population. The article addresses the problem revolving college students and the implications behind mental health in this environment. It provides a solution to the financial crisis of mental health assistance. Since the app turned out to have overall positive results and aided in reducing the primary stressors (anxiety, depression, stress, etc), it was considered a success and has proven that apps/technology can aid these specific issues in a college setting. This is helpful to us due to the fact that our app will be credible, backed up by other apps promoting the same things that we will be promoting. This is a good way to check and see what the app (DeStressify) has done right, what they can improve in, and how we can create an app to cater these needs and surpass expectations. A gap that any app within the umbrella of mental health will face, there is a social stigma along the lines of mental health. Battling the social stigma can be increasingly difficult as financial barriers persist along with the amount of help you seek. It's very easy to subjectively argue an app helps, but the task at hand is that creating an app at low cost such as destressify, is difficult to produce.

# RELATED WORK

## 3. Mindfulness App - Calm

Huberty, J., Green, J., Glissmann, C., Larkey, L., Puzia, M., & Lee, C. (2019). Efficacy of the mindfulness meditation mobile app “calm” to reduce stress among college students: Randomized controlled trial. *JMIR mHealth and uHealth*, 7(6), e14273. <https://mhealth.jmir.org/2019/6/e14273/>

The design problem identified deals with college students' experiences with high levels of stress. Mindfulness meditation delivered via a mobile app “Calm,” may be an appealing, efficient way to reduce stress in college students. It utilizes meditation in various time frames. Calm addresses the problem of stress by implementing an 8-week mindfulness meditation mobile app focused on stress control, mindfulness, and information regarding self-compassion for college students. It also navigates the effect on health behaviors in the college environment. They do this by tracking sleep disturbance, alcohol consumption - binge drinking, physical activity, healthy eating, and productivity of users in the app. There was an overall research sample on various students, not just one type or the ones that are shown to be affected by these stressors. It was a non-biased, overall study on all types of users and college students. We would also like to develop an app that is accessible to all types of people that are struggling, or people who would like more information about mental health. The results were not consistent overall. There were different results depending on the person, their productivity, the status of their mental health, etc. Although these could be beneficial, it also proves that the user design should vary from person to person, and catering to specific needs can be difficult when there are different results and needs. In order to make sure it can complement everyone, the app should be able to have an overall strategy to reach everyone and have the most efficient resources and information in order to be helpful.

## 4. Student Engagement With Mental Health Apps

Melcher, J., Camacho, E., Lagan, S., & Torous, J. (2020). College student engagement with mental health apps: analysis of barriers to sustained use. *Journal of American College Health*, 1-7. <https://www.tandfonline.com/doi/full/10.1080/07448481.2020.1825225>

The design problem that the article addresses is primarily engagement from user to application. While mobile apps demonstrate potential to help, students' engagement with these apps remains low. This study examines why college students show poor engagement with mental health apps and how apps may be adapted to suit this population. This system addresses the problem of engagement by acknowledging college students' demand for mental health resources is straining the services offered by colleges. The high demand creates a need for an outlet. This study analyzes time, privacy, in-app recommendation, and cost as being the largest factors to address. It has been proven that the idea of mental health apps DOES interest students overall. In order to find success in this strategy, one simply needs to find a way to cater to all users and be able to maintain their attention over time. A strong point that we can take away from the journal, is that the features offered are a make or break deal for many users. Statistically speaking, out of 53% or original user downloads, only 19% still used the app because of the factors previously stated. Our app will focus on being engaging, compelling and focus on increasing productivity on mental health awareness, support and strategies. We will focus on how successful apps market, how they connect to users, and how they keep others engaged. Privacy and cost will also be large factors at play. Although there is original interest and engagement from these college students, the interest dwindles overtime and students are not compelled to continue their mental health journey using these apps. Engagement and audience interest is key for these apps to be successful and beneficial to the users in the long-run.

# RELATED WORK

## 5. Eazy Track

Dong, K. (2018). *EazyTrack: Exploring Next-Gen Technology and User Experience Design to Help Relieve Stress*. ProQuest Dissertations Publishing.

<https://search.proquest.com/docview/2164781599/BD551FE739244C77PQ/1?accountid=11667>

This journal helps us better understand the design problem of being able to personalize the software to the individual user. From the research, we can conclude that their method of tracking using wearable technology is sufficient for their app requirements. However, the journal helps us better understand the task of providing the user with knowledge of their possible mental health status to curate a possible solution. This system utilized four key points to address the problem of personalized software: heart rate, blood pressure, muscle tension, and skin temperature. From these points of data, they addressed the problem of identifying what is causing the user distress and creating a solution based on the issue. Some good principles in the design is their use of physical properties that create a solid solution to their specific problem. For our particular problem, we strive to create a solution within the app to cut out the constraint of money as their tracking device is external. Our work will take inspiration from their design principles, but our aim is to keep everything in-app. In doing so, the accuracy that their technology poses, will likely be kept at surface level for us such as tracking app usage, activity levels, and interaction features to substitute. From our perspective, the gap that we are challenged with is their access to a technology that is much more advanced than that of our possible capabilities. Without taking that leap to much more advanced technology alongside higher costs, our app will lack in how much we will ultimately be able to cater to the individual user.

# Chapter 4:

# Design Process

User Research

Persona

Scenarios

Design Requirements



# DESIGN PROCESS

## User Research

When we began our user research, we reached out to those who were seeking for support, had previous experience with technology, and those who were willing to work with us to create an appropriate resource. Our target subjects ranged from college students, to working adults in their mid to late twenties. All of these subjects were currently looking to improve their mental health or willing to interact with our app to see its results.

## Interviews

We conducted the interviews through different methods such as phone calls and video-chat. We then recorded the answers given in order to conduct an analysis and further our research. The interviewees' answers were recorded by screen recording, video recording and written notes taken during the video chats. Once we conducted the interviews, we decided to consolidate all our recorded answers using Miro, so we could compare and see the data all in one place. We created a board that consisted of participant information and under each interview question, we typed our answers onto sticky notes that corresponded to each interviewee.

# PERSONAS

## Primary Persona



### LUCY ROBERTS

21 YEAR OLD FEMALE STUDENT

CAUCASIAN AND NATIVE AMERICAN

"I want to be able to use a resource or app that can help me find ways to cope with my stress and anxiety, but everytime I download one I get confused/frustrated by the layout and it leads me nowhere."

Lucy is a 21 year old finance major. She currently lives in Harrisonburg, Virginia, and studies as an undergrad student at James Madison University. Lucy is in the honors college program at JMU which can be rigorous when it comes to her grades and school work. She is also the president for student ambassadors and works part-time at the student success center as a receptionist helper in the financial aid office.

Her schedule on school grounds is typically from 9-5 from Monday to Friday. When she gets off work or class, she attends School Ambassador meetings or goes to the library to complete her finance homework. The apartment she rents is mostly used for sleeping when she comes home every night, or when she is home on the weekends. She calls her "me time" non-existing. Although her schedule is hectic, she loves having a rigorous schedule and being heavily active throughout the day. Lucy recognizes that her stress comes from the pressure of being perfect and resume-ready. All of her efforts and concerns usually revolve around the future. She used to play volleyball in High School, which helped to alleviate her stress, but has found no time to incorporate it to her routine. The one thing she looks forward to is her Student Ambassador meetings where she can socialize with other students and friends, or the Student Ambassador events organized on the weekends. As of lately, she has developed anxiety attacks from her stress. Besides scheduling counseling appointments on her free weekends, she is trying to find ways such as breathing exercises to ease them, as well as to check in with her mental health throughout the day. She also wishes to look into meditating and see if she can incorporate it to her routine before she heads to school every morning.

### GOALS

- Manage her thought and worry less about the future and unattainable expectations that act as stressors
- Incorporate breathing exercises to aid her anxiety
- Learn about meditation and its effects on mental health
- Check in with her mental health state daily

### FRUSTRATIONS

- "I do not have any "me" time."
- "Slowing down is hard for me."
- "Some of these apps are so complicated to navigate and I get impatient and frustrated."

### NEEDS

- Simplified layout and user friendly app
- Meditation exercises
- Breathing exercises
- Daily interactive app to keep her aware of mental health state



# PERSONAS

## Secondary Persona



### KENNETH YOUNG

33 YEAR OLD MALE ASSISTANT DIRECTOR

AFRICAN AMERICAN AND MIDDLE EASTERN

"I want an app that doesn't have to make me pay more or manipulate me into paying more in order to get anywhere when I am trying to learn more about my mental health."

Kenneth is a 33 year old Assistant Director at James Madison University's Licensing Program. He currently lives in Harrisonburg, Virginia with his girlfriend and two dogs. Kenneth works a 8-3 schedule everyday and occasionally manages some business phone calls on Saturday's and comes into the office. Most of his family members struggle with depression, which has ran in his family for years. His depression has come and gone with his life, and is usually triggered by events or sudden changes. As of recently, he has had problems at work when he did not get the promotion he had been pitching to his boss for months. His girlfriend has noticed his changed behavior, but he usually assures her and moves on from the topic. On Sundays, he goes out for a run with his dogs and cooks with his girlfriend, which is what helps him unwind after a long week. Although he wishes he could run everyday, he has trouble sleeping at night. This causes him to wake up with fatigue and low energy and barely gives him any time for himself before he goes to work. He had originally used a popular mental health app during his breaks at work due to his curiosity to prevent his pre-disposed family depression and at night for their "sleep-aid" sound effects. The mental health app he used has now been widely popularized by influencers on social media and made most if its content exclusive to paying members only. This has frustrated him and caused him to delete the app from his phone. He believes mental health is becoming way too popularized and used for monetary gain in the media. He wishes he could go back and look at the articles published on the mental health app. They had been helpful and were an interesting read on their topics for genetic depression. He also wishes he could use the app's "sleeping aids" again, for him and his girlfriend really seemed to benefit from them at night to have a deeper sleep.

### GOALS

- Sleep and wake up rested so he can exercise to de-stress
- Find an app similar to the one he was accustomed to, but without any restrictions or payment requirements
- Learn more about coping with his genetic disposition to depression

### FRUSTRATIONS

- "I do not want to pay so much money for an app that should be free."
- "I can't sleep at night due to my mental health."
- "Mental Health is becoming a money strategy for companies and influencers."

### NEEDS

- "Sleeping-Aids" Sound Effects: White noise, waves crashing, etc.
- Articles and information on depression
- Free mental health app
- Accessible and goal-orientated



# SCENARIOS

## Primary Persona - Goals

- Manage her thoughts in order to de-stress
- Incorporate breathing exercises to relieve anxiety
- Try mediation out to see if it's right for her
- Create a system where daily check-ins are attainable

## Scenario

Lucy, a 21 year old finance major at James Madison University, finds herself in a constant field of stress. She's apart of the James Madison honors college. In addition, Lucy serves as the president of the student ambassadors program and also works part-time in the financial aid office. Most of Lucy's time is taken up by school and a combination of these activities outside of class. She often feels like her "me time" just doesn't exist which takes a toll on her mental health. Lucy is very aware of where her stress derives from, but finds it difficult to create a balance. She loves the interactions and friendships she has, but isn't too sure how to alleviate all the stress. Her only coping mechanism right now is finding time during the weekends to schedule counseling appointments. She hopes to find something that fits into her schedule so that her treatment doesn't have to rely on having time on weekends.

# SCENARIOS

## Secondary Persona - Goals

- Improve sleep duration as well as quality of sleep
- Discover a new app that requires little to no money
- Learn coping mechanisms for his depression

## Scenario

Kenneth, a 33 year old assistant director at James Madison University struggles juggling his work schedule and other activities. He finds himself working on weekends and always doing more than what's expected of him. Kenneth finds himself slipping in and out of depression episodes with all the stress from work. This scares him because of the history of depression that runs in his family. Because of all this, he has trouble sleeping at night which rubs off into his work week. He has tried other sleep aid apps before, but hasn't found the right one. Most are too expensive or they just don't work for him. Currently, Kenneth has stepped away from these apps because of these reasons and is struggling again with depression and sleeping. He's looking for the right thing to manage it all.



# STORYBOARDS

## Storyboard #1: Primary Persona



Lucy has a very hectic lifestyle and usually gets home feeling exhausted from the day.



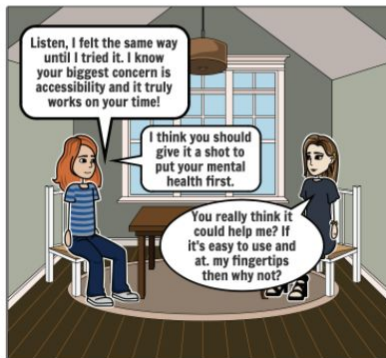
She often feels like she can't catch a break, between working at her university and taking classes for her finance degree, it all adds up.



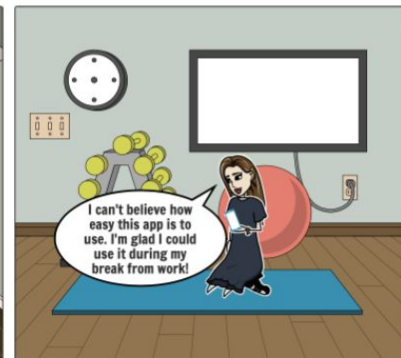
Lucy's roommate has noticed the emotional and physical toll that Lucy's lifestyle has taken on her and confronts the situation.



Lucy's roommate tries to help through previous experience.



Lucy's roommate suggests a mental health app that allows for accessibility so that Lucy would be able to fit it into her schedule. She also suggests an easy to use interface which is one of Lucy's needs as she's not very tech savvy.



Lucy tries the mental health app during her break at work. She gets to meditate on her time and finds that the app is quick and easy to use. Her mood quickly changes as a result.

# STORYBOARDS

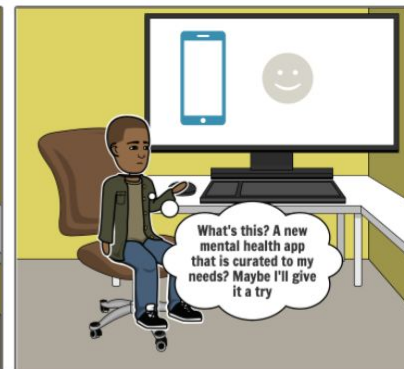
## Storyboard #2: Secondary Persona



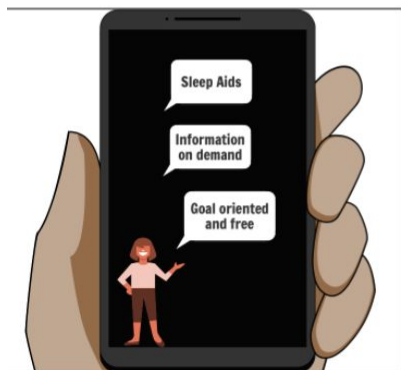
Kenneth has been looking forward to a promotion for months. But his boss decided to go in another direction.



Kenneth slips away in his own thoughts after the bad news.



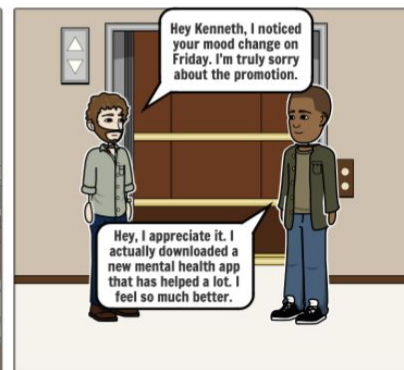
Scrolling through social media, Kenneth sees yet another advertisement for a mental health app, but this one seems to have promise.



He listens through the introduction and hears some of the things the app has to offer.



Later that night Kenneth decides to give it a shot. It can't hurt right?



Monday morning Kenneth's boss decides to check in with him. Kenneth feels a lot better because of the mental health app he downloaded. It was free, it helped him sleep better, and he can create goals for himself.

# DESIGN REQUIREMENTS

## Data Requirements:

- ◆ This product should allow users to track their day to day mental health journey.
- ◆ This product should suggest coping mechanisms based on how the user is feeling and what they are experiencing.
- ◆ This product should track users' app usage in order to log dedicated time.
- ◆ This product should include a privacy feature that ensures users' profiles/accounts and mental health data stays private and personal.



# DESIGN REQUIREMENTS

## Functional Requirements:

- ◆ This product should have a simple interface that allows the user to easily navigate.
- ◆ The product should be well organized, accessible, and interactive for the user.
- ◆ This product should have a “friends” feature that allows the user to add and connect with friends who are also using the app.
- ◆ This product will include an interactive guidance feature for users who aren’t sure which direction to go or where to start.

# DESIGN REQUIREMENTS

## Contextual Requirements:

- ◆ This product should show a calendar that displays the users' logged dedicated time on the app.
- ◆ This product should show emoticons that display different emotions when the user is taking the survey that assesses their current mental health state.
- ◆ This product should show a visual timer/clock during the guided meditation/breathing sessions.
- ◆ This product should show interactive backgrounds when sleep aid/calming meditation sounds are being played.

# DESIGN REQUIREMENTS

## Technical Requirements:

- ◆ This product must be able to fit Apple and Samsung screens.
- ◆ This product must be compatible on phones and tablets.
- ◆ This product must meet Apple and Samsung's dimension and compatibility requirements.

# DESIGN REQUIREMENTS

## User Requirements:

- ◆ This product should require users to create an account with a valid email account for free.
- ◆ This product should allow users to take a survey/quiz which asks them questions about what they are feeling or experiencing and rank their stress/sadness/anxiety levels.
- ◆ This product should allow users to explore the app freely and listen/read/utilize all of the available coping mechanisms, helpful information, and “sleep aids” for free without a pricy subscription.

# Chapter 5:

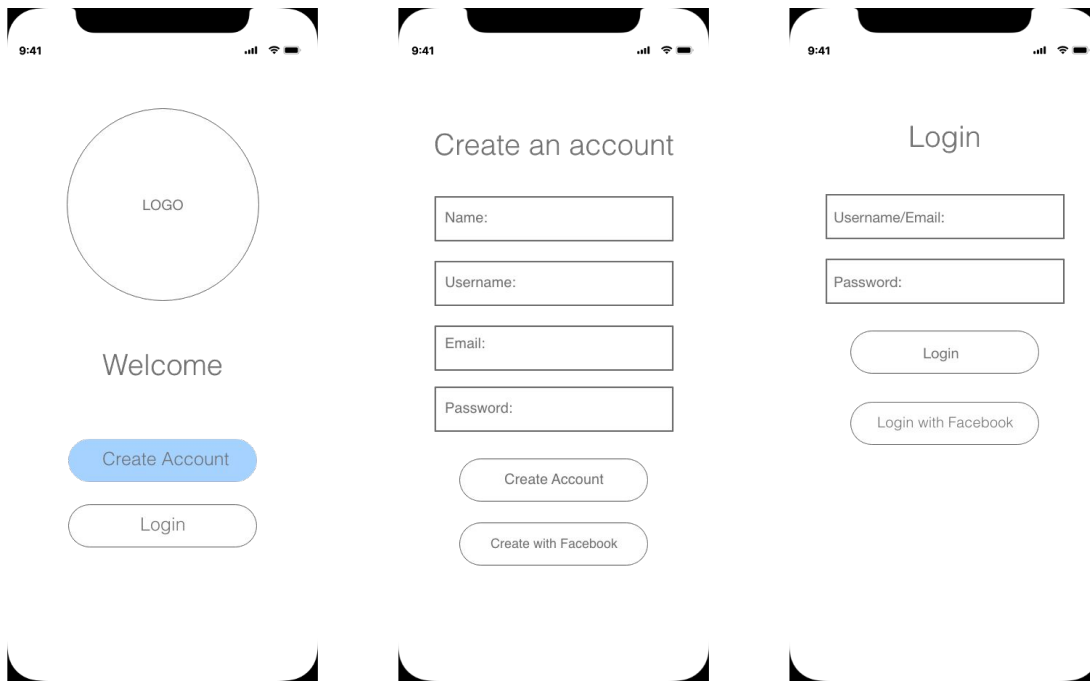
# Design Solutions

Low-Fidelity Prototype and  
Feedback

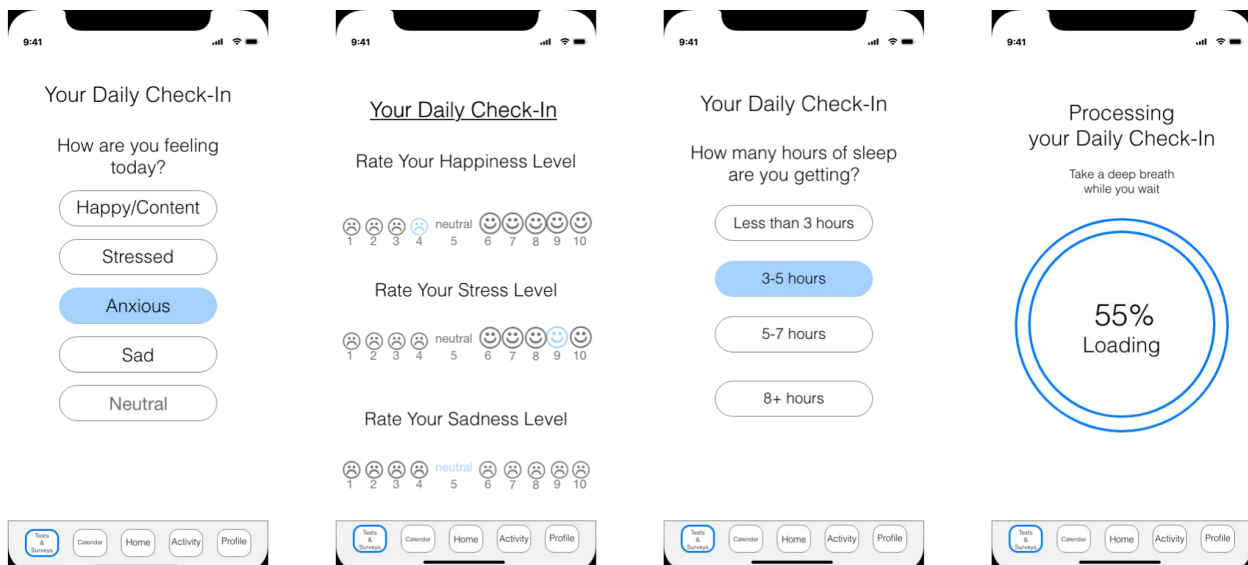
High-Fidelity Prototype and  
Evaluation

# LOW-FIDELITY PROTOTYPE

## Task 1: Sign in through the app/Create an Account

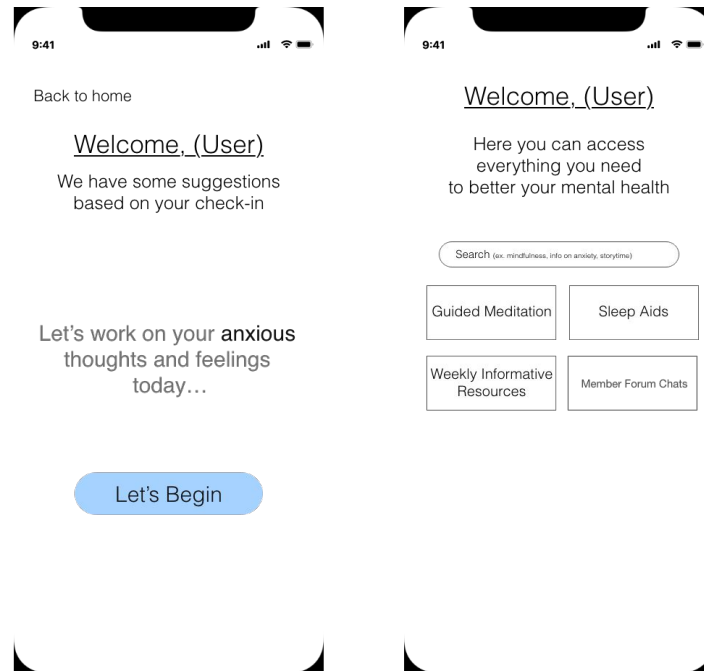


## Task 2: Take/Access survey results and deconstruct data

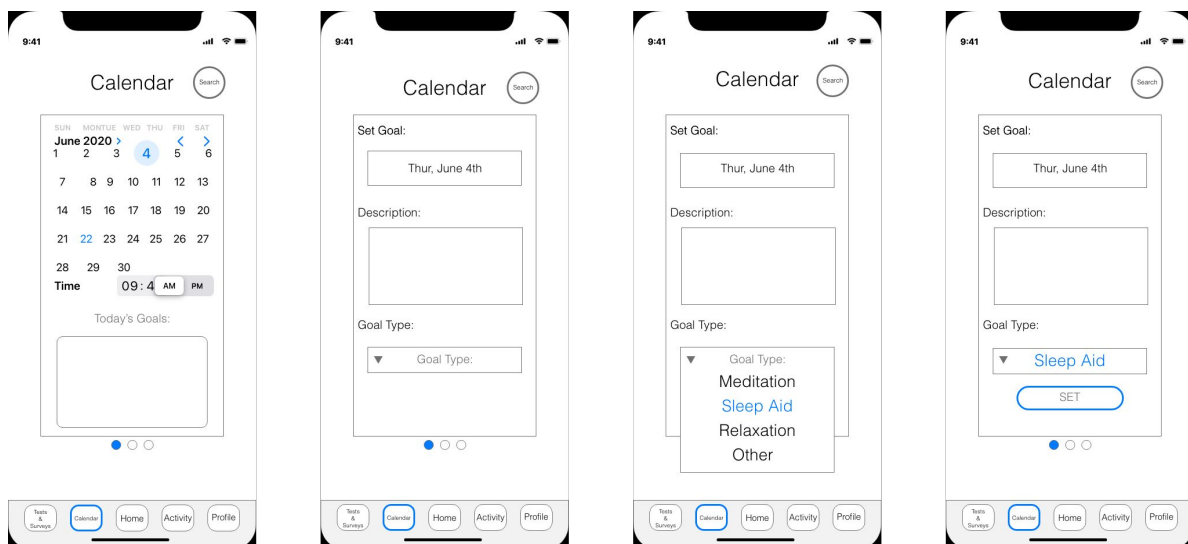


# LOW-FIDELITY PROTOTYPE

## Task 2 Continued...

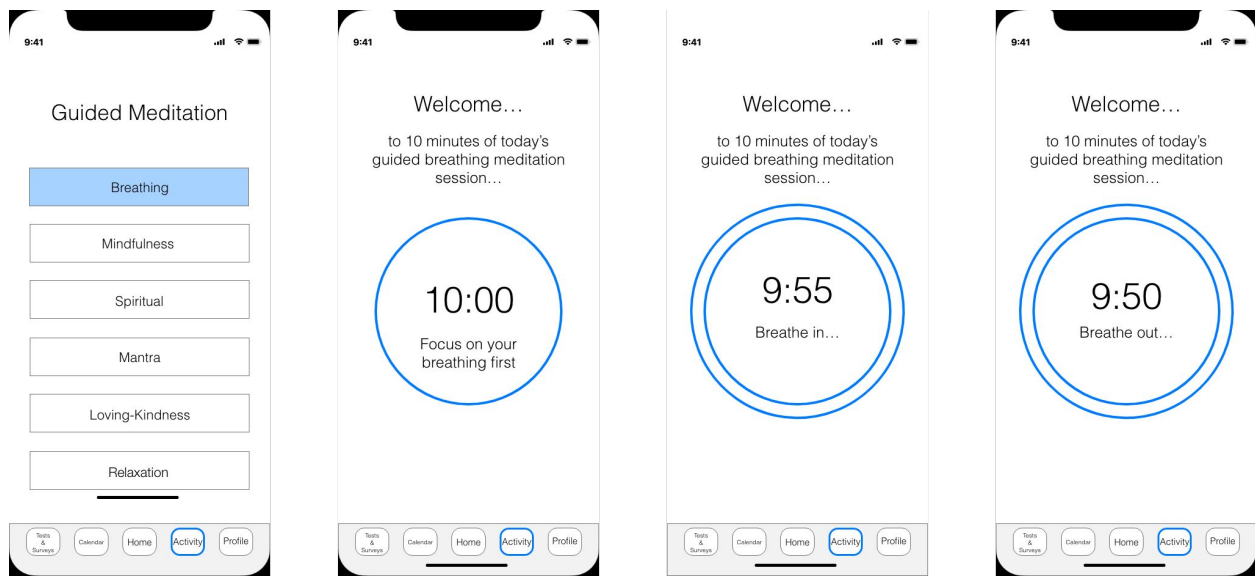


## Task 3: Access Calendar/Activity

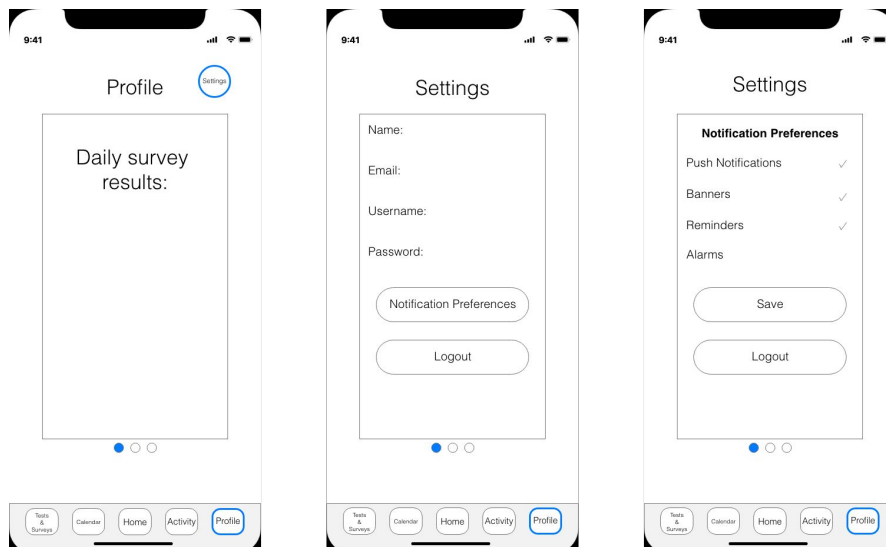


# LOW-FIDELITY PROTOTYPE

## Task 4: Follow along with meditation/breathing session



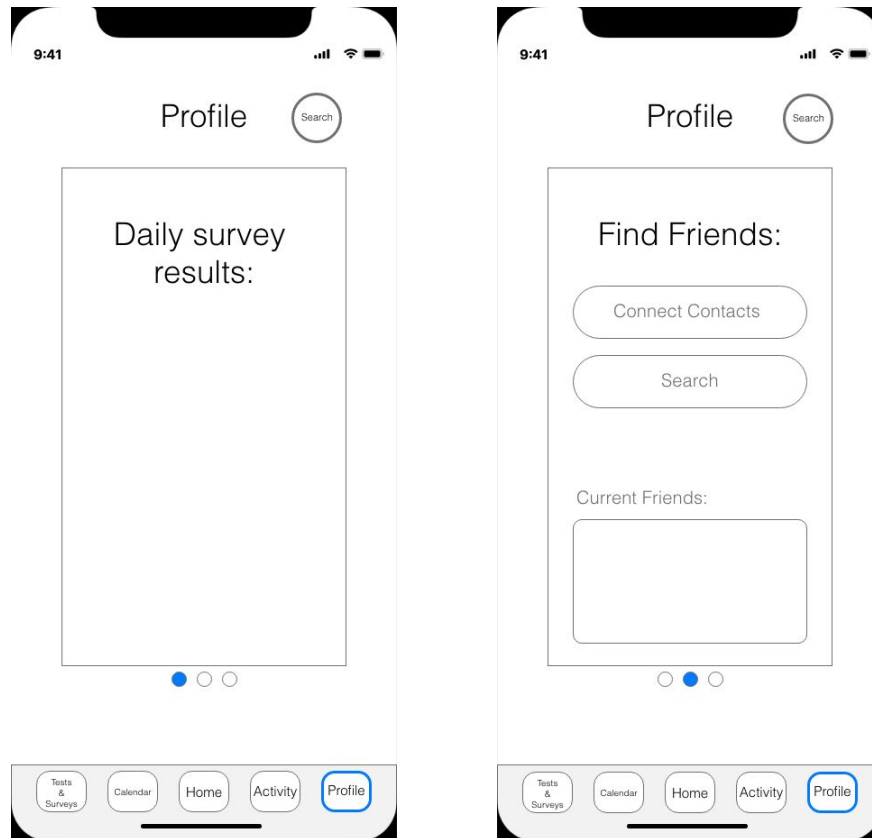
## Task 5: Alter notification preferences to desired settings





# LOW-FIDELITY PROTOTYPE

## Task 6: Find and Connect with Friends

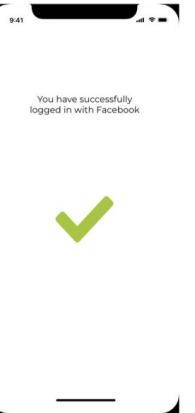
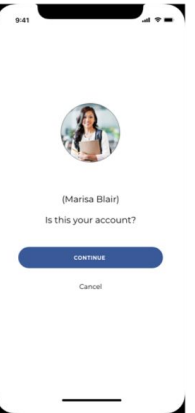
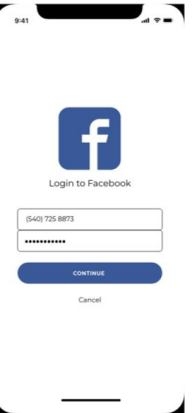
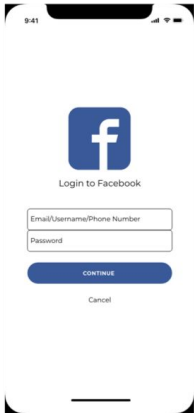
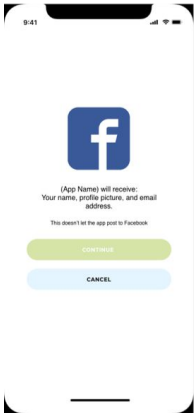
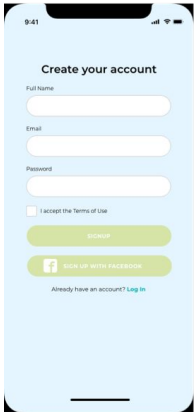
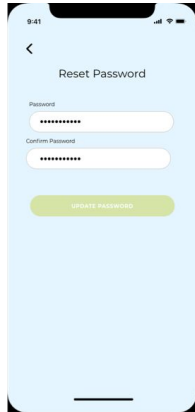
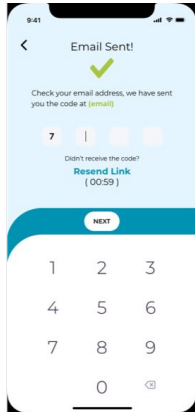
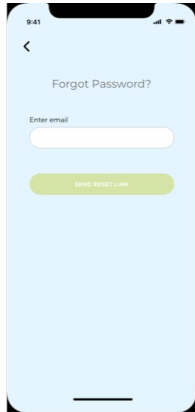
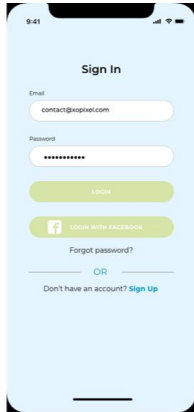
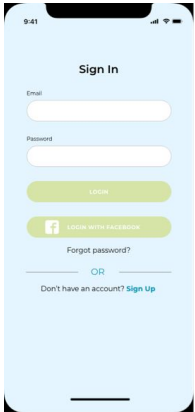


# FEEDBACK

- Consider using both icons and labels for the bottom tabs.
- The buttons should be consistent. Some buttons use rounded borders, while others don't.
- When your task requires multiple steps, add a back and next button on each page.
- How about using the card style to design the resources and forums page? You may consider adding a background color or a background image under each box. Add an icon to differentiate articles and forums.
- Interaction wires need to be re-worked.

# HIGH-FIDELITY PROTOTYPE

Task 1: Sign in through the app/Create an Account



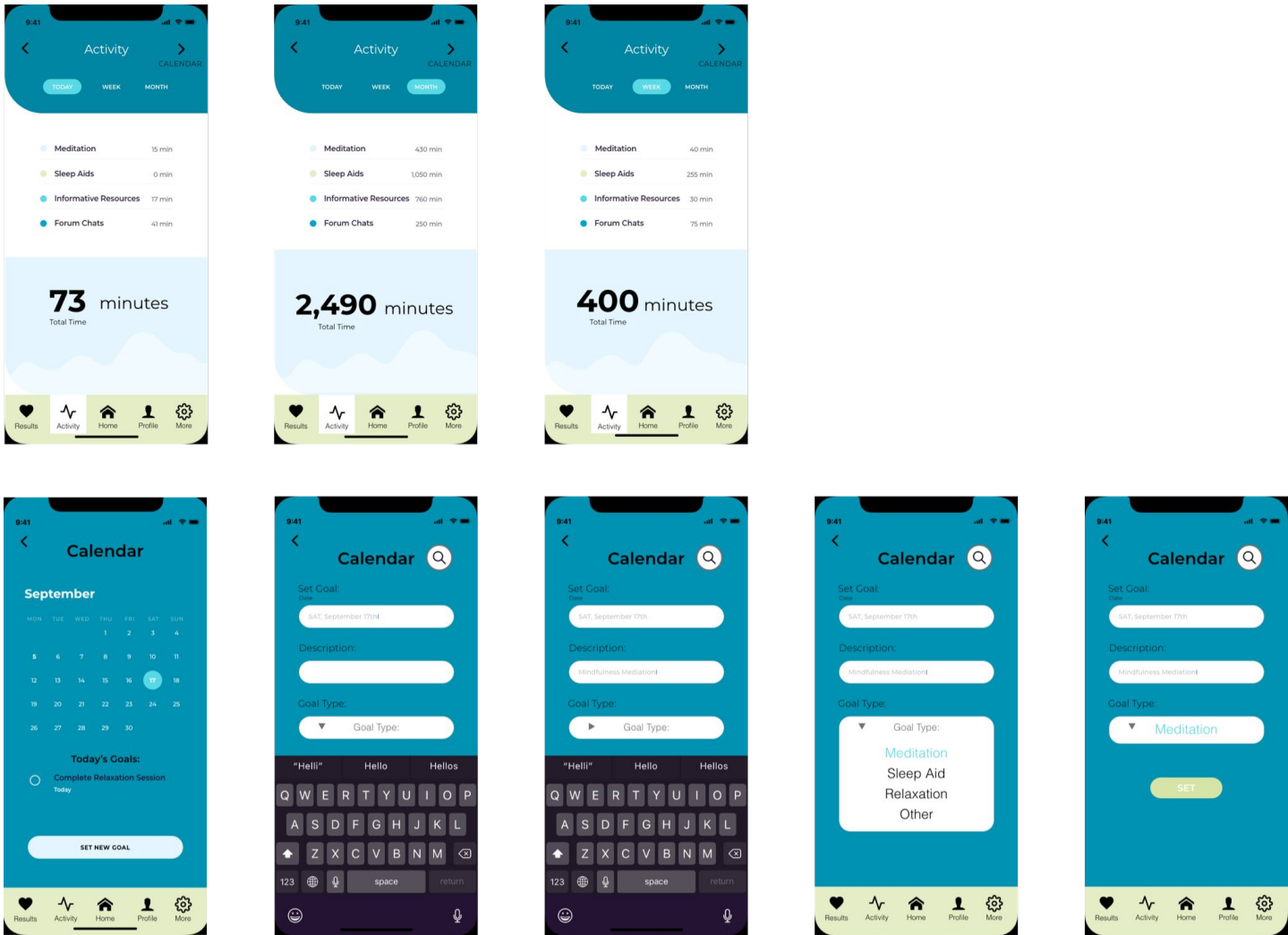
# HIGH-FIDELITY PROTOTYPE

## Task 2: Take/Access survey results and deconstruct data



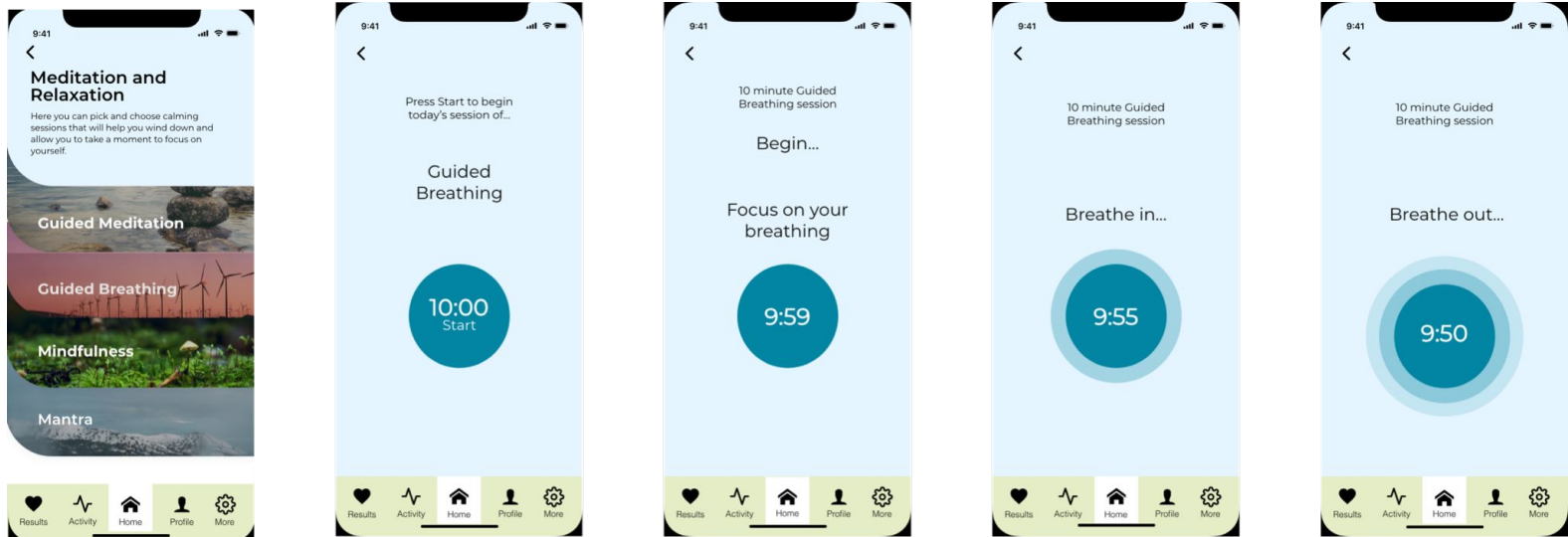
# HIGH-FIDELITY PROTOTYPE

## Task 3: Access Calendar/Activity

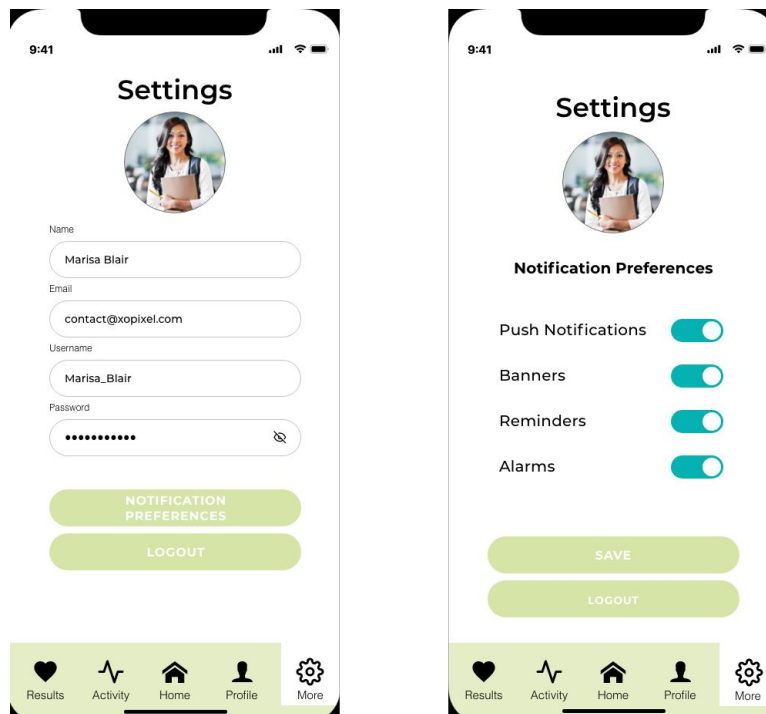


# HIGH-FIDELITY PROTOTYPE

## Task 4: Follow Along with Meditation/Breathing Session

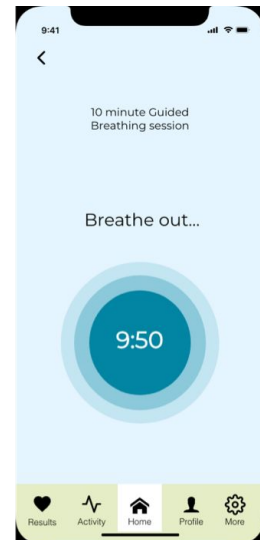
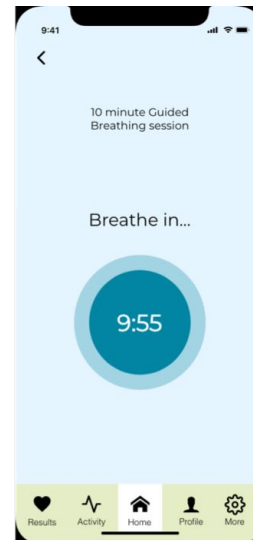
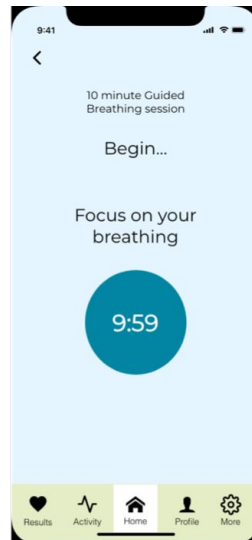
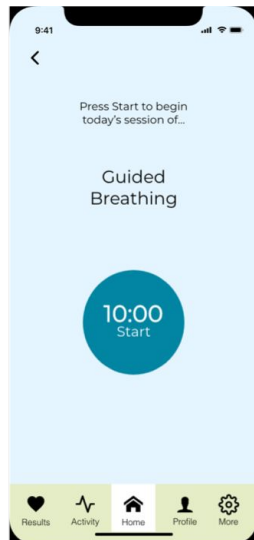
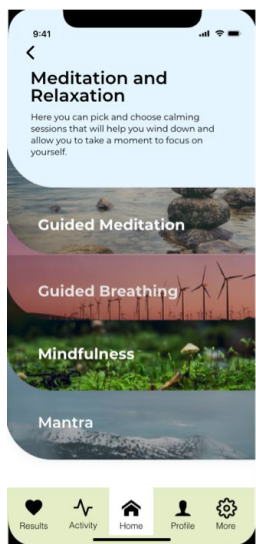


## Task 5: Alter notification preferences to desired settings



# HIGH-FIDELITY PROTOTYPE

## Task 6: Find and Connect with Friends



# EVALUATION

## Additions/Changes from Low-Fidelity Prototype

- A complete logo
- Redesign of all pages (Results, Activity, Home, Profile, Settings) with a complete color scheme and images
- Updated navigation bar names with symbols
- Updated daily check-in by replacing the mood level emoticons with sliders
- Back and forward navigation features where applicable
- Full interaction with added wires to nearly every component

## Evaluation

After receiving feedback from the Low-Fidelity Prototype, we knew we needed to make a lot of changes to make the app more inviting and interactive. The High-Fidelity Prototype is a big step up from the Low-Fidelity Prototype with more functionality and interactions. The user is able to navigate freely through the app with the numerous paths available at just a tap of the screen. The prototype flows more smoothly along with being more visually appealing for the user.

Moving forward, we will continue to work on improving the app's functionality and making it flow as smoothly as possible for the user. We will also continue to make sure each wire is correctly placed.



# Usability Testing and Design Recommendation

Participants

Testing Methods

Findings and  
Recommendations

# PARTICIPANTS

## Participant #1 - Julia Garrison

**Age:** 22

**Gender:** Female, She/Her/Hers

**Education:** Senior Kinesiology Student at James Madison University

**Technology Experience:** Uses technology frequently

**Level of familiarity with mental health apps:** Medium-high

## Participant #2 - Dylan Jones

**Age:** 21

**Gender:** Male, He/Him/His

**Education:** Junior CIS Student at James Madison University

**Technology experience:** Uses technology regularly

**Level of familiarity with mental health apps:** Medium (Wants to become more familiar)

## Participant #3 -

**Age:** 21

**Gender:** Male, He/Him/His

**Education:** Junior Health Administration and Business Student at James Madison University

**Technology experience:** Uses technology frequently

**Level of familiarity with mental health apps:** Low to None

# TESTING METHODS

## Overview of the Test

### **Participant Briefing:**

The application you will be testing today was created to alleviate potential stress factors in an effort to produce a higher quality of life. Along with the application providing a range of helpful resources and activities to better your mental health, it also provides a personalized touch by making suggestions based on daily survey results. The application focuses on connectivity by allowing you to connect with friends who are also on the mental health journey using this app. Through the process of usability research and testing, we found it necessary for users to be able to alter their notification settings and allowing them to access their dedicated time towards the app. The tasks that you will be required to complete today are used to test a high-fidelity prototype that we have created in order to determine the usability of our application. The tasks range from simple to moderate to complex. You will not be prompted on which ones are categorized as which.

### **Tasks to be Completed:**

- Signing up and creating an account
- Take/access daily check-in survey results and deconstruct data
- Access calendar and activity
- Follow along with meditation/breathing session
- Alter notification settings to desired preferences
- Finding and connecting with friends

### **Pre-Session Questionnaire:**

- What is your current age?
- What is your gender/gender pronouns (participants may choose not to answer)
- What is your year and major?
- How often do you use technology?
- What is your familiarity with using mental health apps?

### **Post-Session Questionnaire and Debrief:**

- How usable did you think the app was?
- What feature(s) did you like the most?
- Can you describe various pain points that you encountered?
- Are there any features that you wish this app would have?

# TESTING METHODS

## Test Environment and Equipment

### **Test Environment:**

- Testing occurred in a quiet room with no distractions

### **Test Equipment:**

- Adobe xD was used to access the prototype
- Quicktime Player and Loom were used to record audio and screen during testing

## Evaluation Measures

### **Quantitative Measures:**

- The amount of time it takes for the participant to complete a task
- Task completion rates
- The number of errors that occur during the usability testing

### **Qualitative Measures:**

- Overall impression after task completion
- How usable the app was
- Any features that the participant wished the app had
- Features the participant liked
- Pain points
- Would the participant use the app again

# TESTING METHODS

## Test Procedure

### **How the Test was Conducted:**

We tested each of our participants in a quiet room where there would be no distractions. Before starting the testing, we briefed the participant on what the app was, what type of tasks it supports, and the range of tasks that they would be asked to complete. We then started the screen and audio recording. Next, we asked the pre-session questionnaires, guided the users on what task to complete, and once all tasks were complete, the post session questionnaire took place.

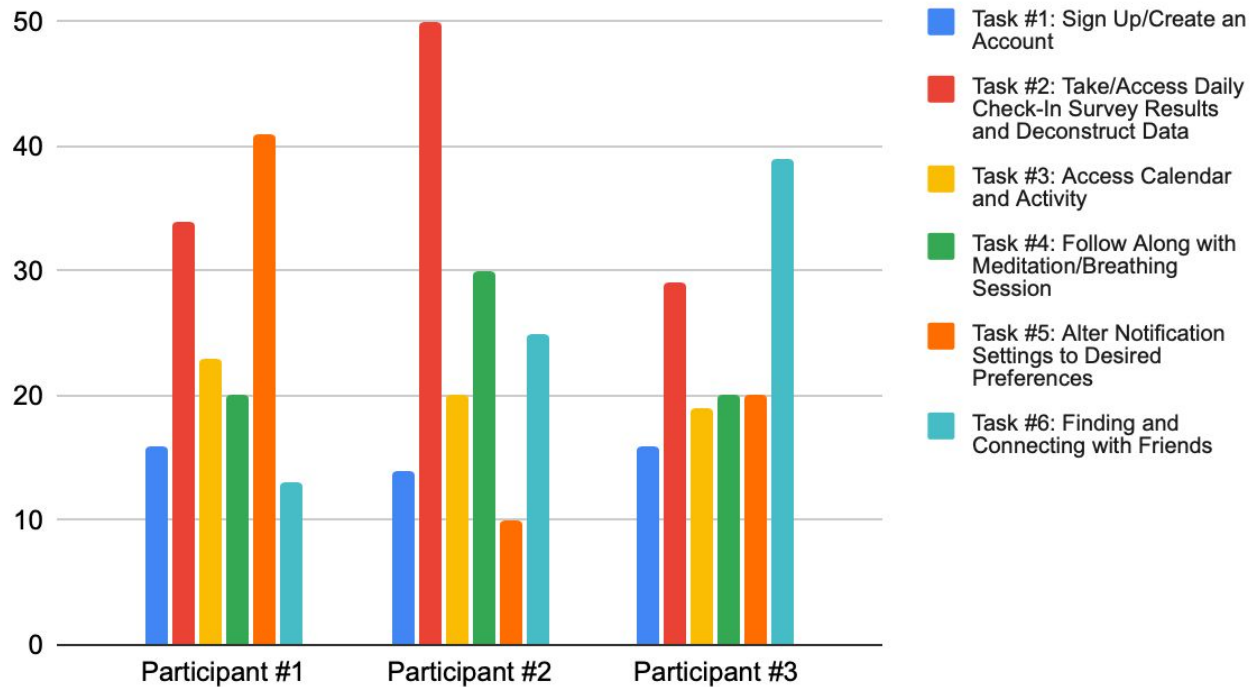
### **Tasks that were Tested:**

- Signing up and creating an account
- Take/access daily check-in survey results and deconstruct data
- Access calendar and activity
- Follow along with meditation/breathing session
- Alter notification settings to desired preferences
- Finding and connecting with friends

# FINDINGS AND RECOMMENDATIONS

## Performance Metrics

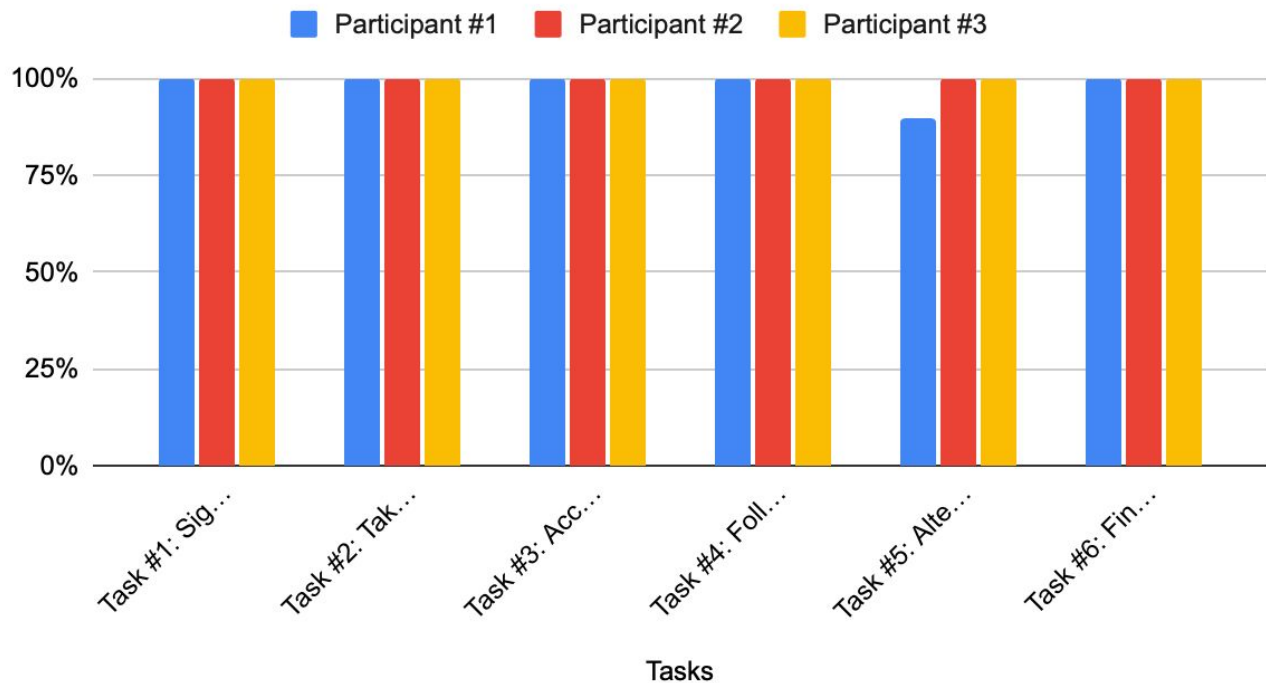
Time Required to Complete Tasks (seconds)



# FINDINGS AND RECOMMENDATIONS

## Performance Metrics

Task Completion Rates (%)



After testing and analyzing data, the conclusions are far better than expected. For the completed task analytics, the average times came out to be 15.33 seconds for task one, task two 37.66 seconds, task three 20.66 seconds, task four 23.33 seconds, task five 23.66 seconds, and task six 25.66 seconds. We are very happy with the times that we recorded and synthesized. The portion of data that we are particularly concerned with is one missed task completion. This is shown above in the “Task Completion Rate” chart. In an effort to resolve this issue, it is included in our “finding and recommendations” on page 41. As more of an overall finding, there is only so much that the user can do in Adobe xD, the interactions should continue to be refined until a final product is delivered.

# FINDINGS AND RECOMMENDATIONS

## Qualitative Results

### **Overall impression after task completion**

- Good, easy to use, informative

### **How usable the app was**

- “The app was very easy to use, easy to navigate, and has a lot of information.”
- “I thought that this app was very usable, if this became an app available to me, I would use it again.”
- “It was very easy! This is the best app I have ever used!”

### **Features the participant liked**

- “Calendar feature where I was able to set my own goals, the exercises.”
- “I enjoyed the various features available for de-stress. Such as meditation and relaxation.”
- “I liked the daily check-in feature. I think it tells you a lot about your mental health.”

### **Pain points**

- “When I set a goal, it wasn’t visually there under “Today’s Goals.”
- “When I was in “Connect Contacts” it wouldn’t scroll down past the point.”
- “I thought I had clicked in the notifications, but it didn’t bring me there initially.”

### **Any features that the participant wished the app had**

- “Maybe sound effects or more visual prompting.”
- “Maybe a journal area where I can track how I’m feeling.”
- “More interactive/animation features with breathing exercises.”



# FINDINGS AND RECOMMENDATIONS

## Usability Issues

### **Severity 0 - I don't agree that this is a usability problem at all**

- None

### **Severity 1 - Cosmetic problem only: Need not be fixed unless extra time is available on project**

- The breathing circle/graphic moved between task
- One of the colors contrasted in a way that deceived the eye.

### **Severity 2 - Minor usability problem: Fixing this should be given low priority**

- Settings navigation wire connects to wrong place, causing confusion
- The search bar was not scaled

### **Severity 3 - Major usability problem: Important to fix, should be given high priority**

- In the Contacts section, the list of contacts only scrolled down past a certain point
- In the "add friends" section you cannot click on add friends

### **Severity 4 - Usability catastrophe: Imperative to fix this before product can be released**

- New set goals didn't show up under "Today's Goals"
- After breathing it did not go back to main page

# FINDINGS AND RECOMMENDATIONS

## Design Recommendations

- Add sound effects to add to the calmness of the app
- More visual prompting
- Add animations
- Add Journal entry page
- Colors corresponding similar features
- Scaling certain elements
- Enable scrolling features
- Enabling all buttons/features

# CONCLUSION

Throughout this course, our team has worked on creating a sustainable app that can efficiently work with users towards bettering their mental health. Our work prioritized in assuring that all users had a prototype that was user friendly, engaging and that met their expectations and needs. After testing a variety of results with our original prototype and wireframe sketches and storyboards, we ultimately resulted with the best possible outcome and most accessible way to mental health resources, information and exercises. From our perspective, and the corresponding feedback of the users that we tested, we have resulted in having the most effective and sustainable version of “Relax.” Taking into account our the low-fidelity prototype, and lastly the high-fidelity prototype, we have tailored our design and efforts towards the needs of all users, which have allowed us to achieve our goals, as well as take into perspective the best ways to access and create a successful app from scratch. Our team has gained numerous amount of skills that will aid us in our academic and professional progress. And ultimately, it has helped us use our creative skillset to develop something meaningful.

*Lani Meneses, Courtney Miyashiro & Chance St. Clair.*

# REFERENCES

## Related Work:

- [https://www.researchgate.net/profile/Tamlin\\_Conner/publication/328635736\\_Mobile\\_Mindfulness\\_Meditation\\_a\\_Randomised\\_Controlled\\_Trial\\_of\\_the\\_Effect\\_of\\_Two\\_Popular\\_Apps\\_on\\_Mental\\_Health/links/5bf089bb4585150b2bbdd928/Mobile-Mindfulness-Meditation-a-Randomised-Controlled-Trial-of-the-Effect-of-Two-Popular-Apps-on-Mental-Health.pdf](https://www.researchgate.net/profile/Tamlin_Conner/publication/328635736_Mobile_Mindfulness_Meditation_a_Randomised_Controlled_Trial_of_the_Effect_of_Two_Popular_Apps_on_Mental_Health/links/5bf089bb4585150b2bbdd928/Mobile-Mindfulness-Meditation-a-Randomised-Controlled-Trial-of-the-Effect-of-Two-Popular-Apps-on-Mental-Health.pdf)
- <https://mental.jmir.org/2018/1/e2>
- <https://mhealth.jmir.org/2019/6/e14273/>
- <https://www.tandfonline.com/doi/full/10.1080/07448481.2020.1825225>
- <https://search.proquest.com/docview/2164781599/BD551FE739244C77PQ/1?accountid=11667>

## Inspiration/Resources:

- <https://www.xdguru.com>
- [https://www.adobe.com/products/xd/features/ui-kits.html?mv=Search&ef\\_id=CjwKCAjwhMmEBhBwEiwAXwFoEdq\\_ZTMGAPmx2fy7ro-b3ocoptHK6nERGW1Rd\\_0FsRxCA0-WyhUsuRoC1VlQAvD\\_BwE:G:s&s\\_kwcid=AL!3085!3!394015009822!e!!g!!adobe%20xd!1641846436!65452675151#panel-3?mv=Search](https://www.adobe.com/products/xd/features/ui-kits.html?mv=Search&ef_id=CjwKCAjwhMmEBhBwEiwAXwFoEdq_ZTMGAPmx2fy7ro-b3ocoptHK6nERGW1Rd_0FsRxCA0-WyhUsuRoC1VlQAvD_BwE:G:s&s_kwcid=AL!3085!3!394015009822!e!!g!!adobe%20xd!1641846436!65452675151#panel-3?mv=Search)