Me Uni.

A mobile app helping people keep meditating

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12/04/2018

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Rationale and Purpose

During the last two decades, meditation has been found in several studies to reduce anxiety, increase positive affect, improve individual's psychological capacities, such as attentional and emotional self-regulation, and so on. There are also tons of meditation apps on the market for busy people to practice meditation to improve their psychological and physical health. As novices at meditation, however, we found that it is quite challenging to form a habit to practice meditation regularly even we have recognized lots of benefits brought by mindfulness meditation and only need to take five to ten minutes to practice. Therefore, we would like to design an app that can motivate the beginners to practice meditation on a regular basis.

Competitive Analysis

To explore the gaps and opportunities in the market, we conducted a competitive analysis. As mentioned, however, there are many meditation apps in the market. It is challenging to review all related apps, so we choose three apps that have the most ratings in App Store—HeadSpace, Simple Habit, and Calm, as well as three other popular apps that have quite different features from other apps.

To support our design decision, we define eight rubrics which are the purposes of apps, primary categories, content type, information displayed, personalization features, user-generated content, competitive advantages, and customer reviews.

Insight from competitive analysis

After conducting a competitive analysis, we found that what makes the app stand out is the way they organize and present content. Furthermore, from existing meditation apps, people can hardly receive feedback after they complete meditation, which might lead people easy to quit meditation.

Gaps & Opportunities

- From the customers' reviews, we found that people with mental disorder such as ADHD and PTSD will use these meditation apps. However, none of them are tailor-made for these groups of people. It makes us consider whether we can target these people or create specific meditation content for them.

- Most of the apps let users track their daily progress by presenting day streak, total completed sessions and total meditating minutes. Nevertheless, none of them collect data such as sleep pattern and Heart Rate to help users know how well their health improve because of meditation. As a result, we think collecting biofeedback data and displaying it in a pictorial or graphical format in our app can make users have an insight into their progress. In addition, in this way, it can prevent users from giving up meditating easily.
- After reviewing the primary categories of each app, we found that the content in each app is similar, and what makes the app salient are the way they organize and present the content. For example, both Calm and Simple Habit primarily categorize the content according to its purpose, such as for sleep or meditation. However, the way they present the content, a real-world picture with a fancy title, could dazzle users easily. On the other hand, HeadSpace organizes the content pretty well. They categorize the content mainly according to whether it is a series and the function of the courses. Besides, HeadSpace do not use real-world picture and fancy words but simple colored rectangular and straightforward word to present the content. It is an inspiration for us to rethink how users might seek information when they use such apps. What kind of strategies do they apply when they search for a lesson for meditating? The duration or the feature of the lesson? Also, how can we present the content that makes the user understand the content easily and not feels overwhelmed?
- We found that people who begin to meditate may give up easily because they can hardly acquire immediate feedback from their physical or mental change. Moreover, users do not gain any reward or meaningful feedback from the existing apps after they complete the meditation. As a result, we want to design a gamification app that gives users a meaningful or positive reward to encourage them to keep practicing meditation. Even though users can not get the physical or mental change instantly, the game will motivates them to keep using the app. Thus, they can keep the practice for an extended period until they perceive real physical or mental change.
- So far we have not found any app including group meditation feature. However, from the customer reviews, we also have not seen such needs. We wonder whether there is no such needs or just no other competitors thinking of it. We might have to do further investigation to clarify it.
- We have seen several formats of content, such as videos, audios, soundtracks for

sleep, and bedtime stories. We found that the videos before meditation are quite irritating for users because it prevents users from accomplishing their goal--practice meditation. However, it is undoubted that people may want to know how meditation help them reduce stress, manage anxiety and sleep well. As a result, we consider put educational videos in our app and users can choose to watch or not. In addition, since we do not focus on children, it is also not necessary to contain bedtime stories in our app. In conclusion, we think that audios and soundtracks for sleep are the most suitable formats.

Planning interviews

- Organizing and Presenting information:
    - We would like to design an intuitive interface for users to find the course they need easily. Yet, there are many ways to organize and categorize the content, such as the duration of meditation, the function of courses (e.g., reduce anxiety, sleep well, etc.), the form of courses (with tutoring or not) and so forth. Before we decide how to organize and present the content, we would like to know when people would practice meditation (in what context people would use the meditation app) and how they search courses in the app. Therefore, we want to recruit the beginners to conduct interviews to learn more about these questions.
- Motivation to practice meditation:
    - As aforementioned, our goal is to facilitate forming a habit of practicing meditation. Therefore, we want to find out the motivational factors as determinants of the likelihood of performing meditating through interviews. We utilize integrated behavioral model (IBM), which provides a theoretical basis and for understanding behavioral and identifying specific beliefs to target, to form interview questions.

Integrated Behavioral Model (IBM)

The Integrated Behavioral Model includes constructs from the TRA/TBA and from other influential theories. The most important determinant in the IBM is the intention to perform the behavior. Four other components directly affecting behavior, including knowledge and skill to perform the behavior, environment constraints, salience of the behavior, and habit. Even a person has strong intention, without the first three

components he/she may not be capable to carry out the behavior. Finally, the experience of the behavior may make it a habit, so that intention becomes less important in determining behavioral performance for these individuals (Triandis, 1980).

Interview structure

The Integrated Behavioral Model indicated that a behavior is more likely to happen when a person has strong intention and knowledge and skill to perform the behavior, there is no serious environmental constraints preventing behavioral performance, the behavior is salient to the person, and the person has performed the behavior previously. This provides us a clear direction for promoting practicing meditation. We need to consider that how all these components interplay with each other, and which components are more important for promoting practicing meditation. Thus we adapted the elicitation questions of the IBM to establish our interview structure.

	Interview Question
Context of Usage	• What motivate you to start practicing meditation? • When will you practice meditation? • Did you ever tried any meditation apps before? • If yes, can you describe how you use it to practice? (or demo)
Forms of Meditation	• Which forms of meditation you prefer, guiding or non-guiding? And why? • Are there any other ways that you like to utilize to practice meditation?
Experiential Attitude	• How do you feel about the idea of meditation? What do you like/dislike about meditation? • How do you enjoy/hate about meditation?
Instrumental attitude	• What are the benefits that might result from practicing meditation (for a long time)? • What are the negative effects you think that might result from practicing meditation?
Perceived control	• What things make it easy for you to practice meditation continuously? • What things make it difficult for you to practice meditation continuously?
Self-efficacy	• If you want to practice meditation on a regular basis, how certain are you that you can?

	• What other factors affect your ability to form a habit to practice meditation?
Social Support	• Who would support you practicing meditation? Or someone who might be against? • Who can you think of that would practice meditation?

- We planned to find interviewees in a regular held meditation group/event in Austin. We targeted the mindfulness meditation group held by CMHC every Tuesday. It is a free meetup and opens to all UT students/faculty/staff. We have been to a meetup on November 13th to understand how the group works and the characteristics of the participants. It is an unguided meditation class. When hearing the sound of the bell, people just sat quietly, closed their eyes and started meditation. And the meditation ended with another sound of the bell. It was very different from tutorials of meditation apps, in which usually there is someone telling you how to do meditation. But we thought that such meditation group might designed for who are familiar with meditation techniques.
- Unfortunately, we failed to recruit interviewees in the mindfulness meditation group. However, through the connections of the mindfulness meditation group, we were introduced to Dr. David Collins, a long-term meditator. We had a conversation with Dr. Collins on November 26th. He gave us a lot of useful knowledge. For example, he pointed out that many people prefer going to yoga retreat doing meditation with others. It supports our idea of group meditation. In addition, he suggested that even for a long-term meditator like him, the experience of meditation can sometimes be not so pleasant. The beginners may feel frustrated if nobody tells them it is common to happen; thus it becomes a reason that they give up. It lets us wonder that we can enhance emotional support and verbal persuasion through the in-app/push notifications. Therefore, we can help the beginners overcome the feeling of frustration.
- In the future, we still want to recruit the beginners and conduct the interviews. We will try to find our potential interviewees through different channels, like other local meditation groups in Austin, online meditation groups, etc.

Theories Inform The Design

As mentioned before, to facilitate users to form a habit of meditating, we would like to

create a game that users can build a planet to reinforce the behavior of meditating. Here are some features that we include in the app: decorations for the planet as reward, leveling up while finishing a session of courses, social connection (such as adding friends, sharing progression with others, and booking a time to meditate together), and data visualization to help users to track on a regular basis.

In addition to conducting the interviews to have the insights of users needs and intentions, we need to use well-developed theory to support our design. Here are some theories we utilized as a fundamental of our design.

There are several theories which can support our design decisions. For example, Transtheoretical Model suggested that by creating simplicity and enabling factors, users may feel easier to complete meditation and become more willing to stay with the practices. Similarly, Health Belief Model pointed out that the design should be able to reduce users' perceived barriers and increase self-efficacy (skills training). As a result, to help the beginners develop the habit of meditation, we suggest shorter tutorial sessions at the beginning of their practices. However, these theories are not as holistic as Social Cognitive Theory which considered the dynamic interplay of individuals, groups, and environmental influences. Hence, we consider how these three factors can influence each other and can be used to promote practicing meditation. We use this app as a facilitator that makes practicing meditation more easier. Here are some constructs we adopted in our design.

Social Cognitive Theory (SCT)

- Psychological determinants of behavior:

Construct	Definition	Rationale and Function
Outcome expectations	Beliefs about the likelihood and value of the consequences of behavioral choices.	Our app would like to convey the belief that there is no shortcut to improve their health through meditation. In contrast, continuing meditating can genuinely make well-being better. By delivering such foresight, we can increase their capacity to visualize the long-term benefits and work toward distant goals while discounting the immediate costs

		and ignoring the short-term benefits of alternative actions.
Self efficacy--Mastery experience	Enabling the person to succeed in attainable but increasingly challenging performances of desired behaviors.	In the beginning, users will start meditating from the basic courses and only need to practice for five minutes a day. Gradually, they will be asked to perform longer courses, it might be 7, 10, 13 minutes and so forth. And they will practice more meditation skills with gradual progression.
Self efficacy--Social modeling	Showing the person that others like themselves can do it.	In this way, users can visit other people's planet to view their profile (if they are willing to share) and choose whether to connect with them to have a further conversation.
Self efficacy--Verbal persuasion	Telling the person that he or she can do it.	We will give users meaningful and motivating messages which include the personal information, such as the improvement of sleep pattern, to encourage people to keep going.

- Environmental determinants of behavior:

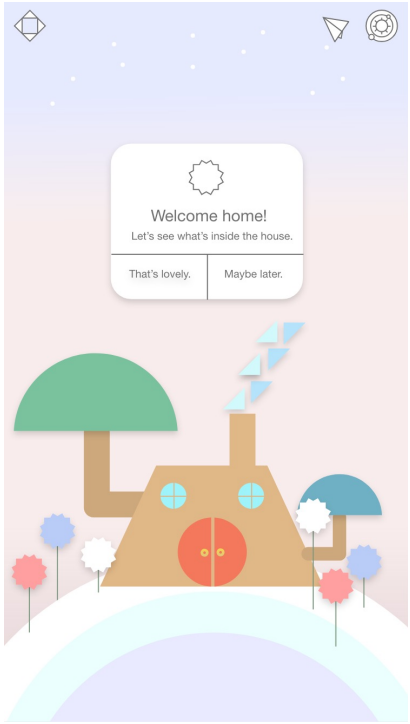
Elements	Description	Design
Incentive motivation	The use and misuse of rewards and punishments to modify behavior	We provide positive reinforcement to motivate users to keep practicing. When they complete the course, they will get the crystals which they can exchange some products in the app. Moreover, when they attain a certain level, their planet will be upgraded, and they will have more options of materials to build their planet.
Self-regulation--Self-monitoring	The systematic observation of one's own behavior.	Presenting users' progression with visualized data. In this way, they can track their daily progression and have a look of the attainment. Also, when user cannot practice meditation, they can keep simple records of the reason, which enables users to identify and begin to develop coping skills.

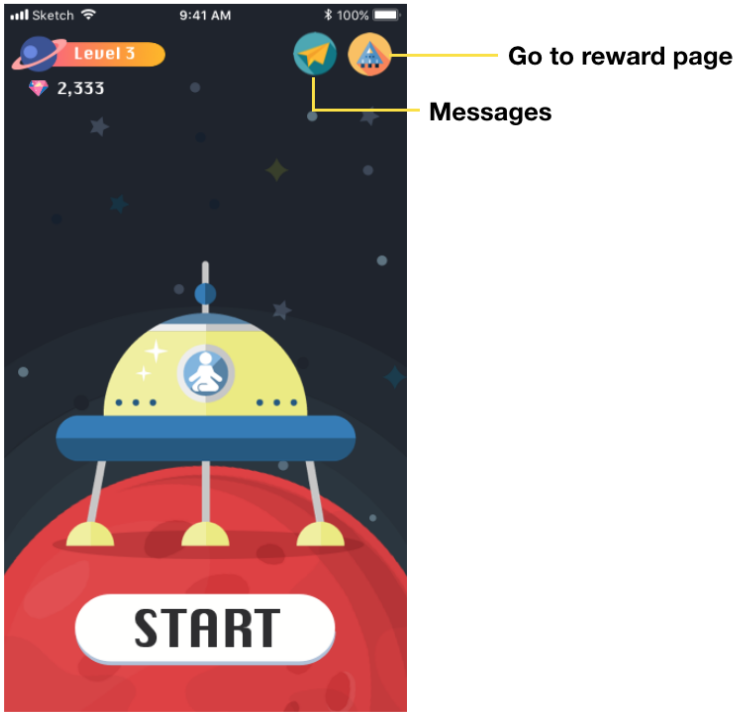
Self-regulation--Goal-setting	Creating small attainable goals to help individuals begin new behaviors and keep commitment.	Users can set a short-term and a long-term goal for themselves in the very beginning. And the system will recommend the courses to users according to their goals and their daily progression. In this way, gradual steps can be achieved more easily to enhance users' self-efficacy.
Self-regulation--Feedback	Information about the quantity and the quality of the behavior being learned, as provided by others and gleaned from the person's own observation.	Utilizing wearable devices to track users' bio physiological index, such as sleep pattern and Heart Rate to help users know how well their health improve because of meditation.
Self-regulation--Self-reward	Short-term and frequent rewards that people give themselves may be more effective than rewards that may occur in the distant future.	Whenever the user complete a meditation courses, we will gave her/him crystals, which they can use to exchange materials to construct their planet. They can choose when to use that money. Also, while leveling up, they have more options of materials to build their planet.
Self-regulation--Enlistment of social support	It can be achieved when a person finds people who encourage his/her efforts to exert self-control.	We found that although existing meditation apps have the function of reminder, users still tend to ignore the notification. One of the functions of social networks—companionship— can encourage users' efforts to exert self-control. We design a function that users can invite their friends or be invited to practice meditation at the same time (remote).

Mockups

After conducting competitive analysis and reviewing the supportive behavioral theories, we built medium mockups of out app. We divided the system into three main categories, which are meditation courses , community, and self data tracking.

Main page and reward page

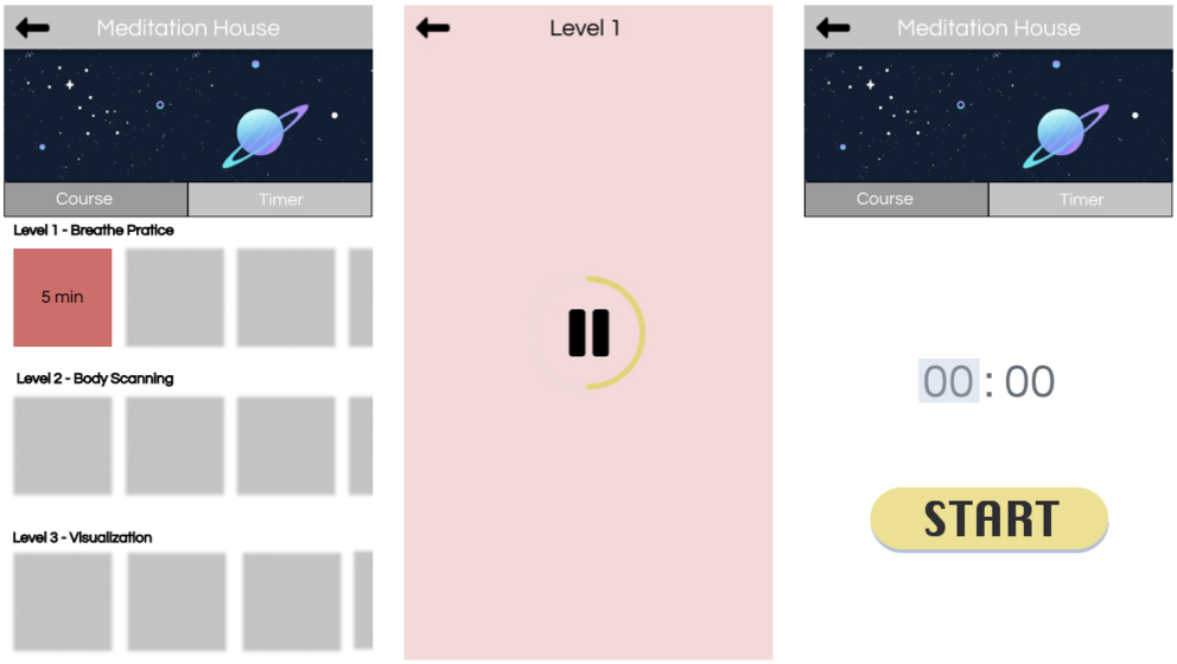




We design two different style of main page. When user enter the app, they will see the spaceship linked to the meditation courses. If they swipe right, they will see the spaceship linked to community page. If swipe left, they will see the spaceship to the profile page to view their progress.

Users will earn the crystal when they finish one course, they can use crystal to buy decorations. And when they leveling up, they can acquire rare decoration which can not be bought by crystal.

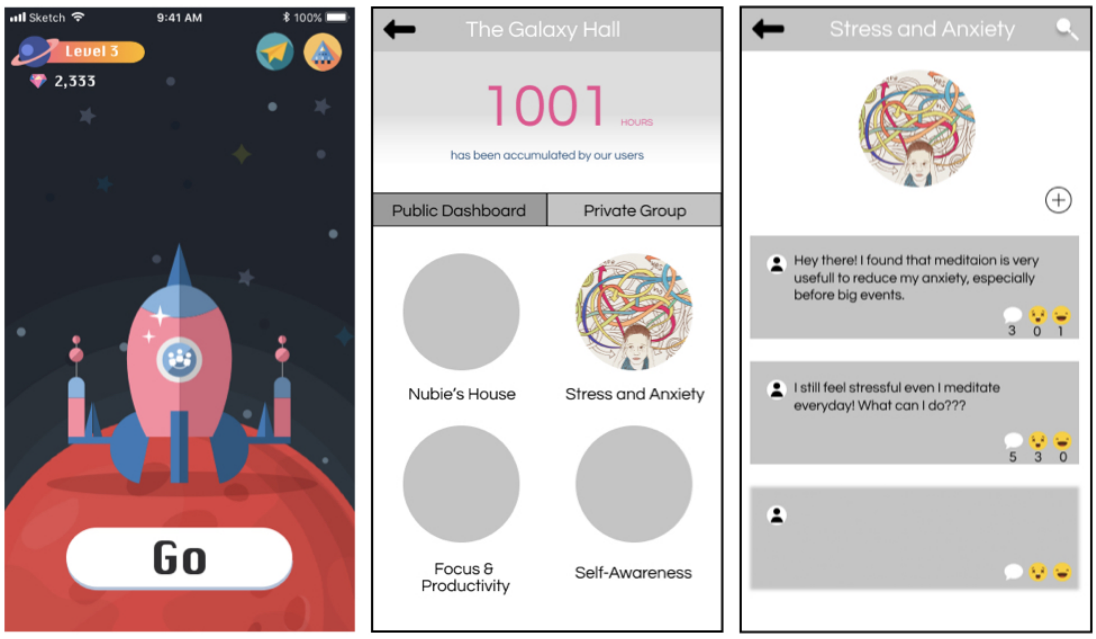
Meditation Courses



In the meditation courses section, firstly users will see the main page containing two labels, which are course and timer. In the course page, users will be presented the courses according to different levels. As we mentioned in the competitive analysis, we decided to focus on teaching the techniques of meditation instead of emphasizing the benefits. Hence we categorized our courses by techniques from the basic to the advanced. Users need to follow the order of the courses. New courses will be unlocked only when they complete a previous level of course, thus they can enhance their meditating ability step by step (master experience). In the timer page, users are allowed to set their own desired practicing time. The timer is unguided and it will remind users with a sound when the session ends.

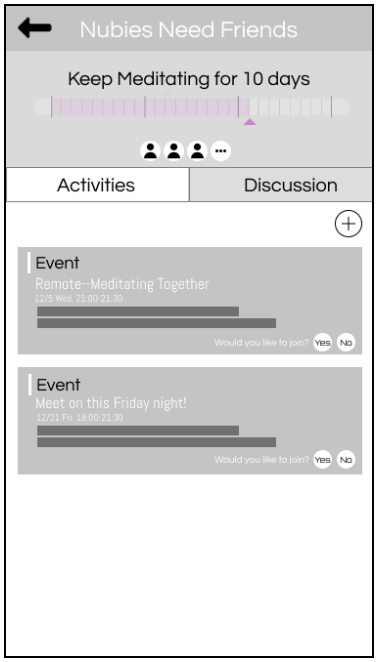
Community--the Galaxy Hall

- **Public forum**



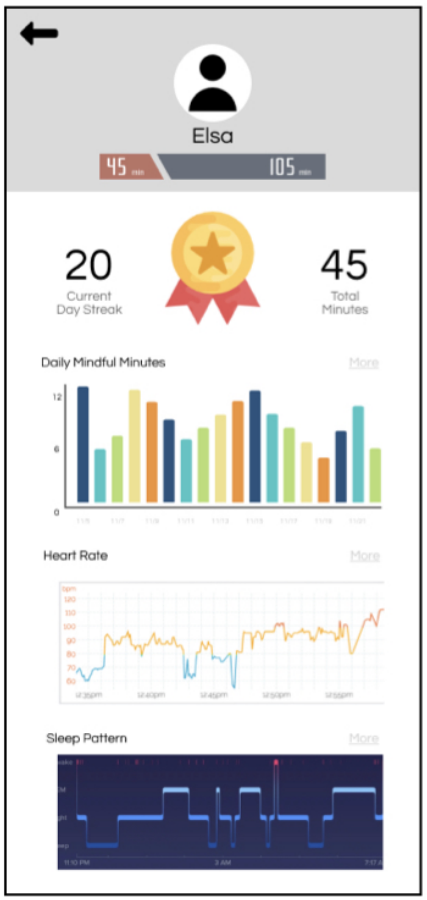
There are two main parts in the community page--public forum and private group. In the public forum, according to users' need, they can go to the specific forum to seek help and post problems or thoughts about meditation and receive others' opinions. They will gain instrumental support and informational support in the forum. In addition, they can also use "search" to search the issue they encountered and further to see how those who share the same difficulties attain their goal (social modeling).

- **Private Group**



Users can form a group with others who they might be more familiar with. With small group, users are more likely to interact with each others and share more private information or thoughts that they may hesitate to mention in the public forum. Through such bond between members, users will acquire more emotional support in this group. In addition, we all know that it is much easier to attain our goal if someone accompany us. Thus, we create a function that the members can set a certain time to practice meditation together remotely. In this way, people will less tend to give up due to laziness or other excuses. Also, the members can also hold events, such as hanging out and practicing meditation together. We hope through such companionship, users can successfully form a habit of practicing meditation.

Personal Profile--Tracking progress



In the profile page, the users can view their daily progress, including day streak, total minutes of meditation, daily mindful meditation, heart rate, and sleep pattern. They can monitor their physiological change during the meditation and compare it to the time they do not practice meditation, which will give them a positive feedback to have an insight to body change. Also, they can track their goal accomplishment through the bar below the profile image. We hope users can be more motivated when they see the bar change day by day.