

Milestone 3 Report

Link to Interactive Prototype:

<https://pr.to/Y8FQY5/>

(Can be opened on a desktop or mobile device)

Narrative About the System:

Welcome to BetterU, a social app that revolves around the idea of improving the mental health states of communities around the world. With how busy everyone's day-to-day lives have become, the amount of stress that exists has grown exponentially, contributing to a rise in mental health disorders worldwide. BetterU serves to be an accessible and interactive solution to this problem by encouraging individuals to come together and perform activities that promote healthier minds. The following description is a walkthrough of BetterU in the form of a tutorial that a new user might be listening to as he or she first uses this app, filled with theoretical situations and narratives.

Upon opening the app, you can see that you are greeted with our login/sign up page. If you are a returning BetterU user, then simply press "Log in" and enter your information, and you will be sent to the BetterU home screen. If you do not already have an account, the process of signing up is very easy. First, press "Sign up", and you will be brought to a "Create Account" page. Because this is a social app, there are a wide number of social media outlets that you can use to create your account. For example, if you have already have a Facebook account, all you have to do is just sign into your account, and your BetterU account will be ready to go. If it so happens that you do not have any social media accounts, that is okay as well. The last option in the menu is to sign up with a simple email. This method may take you a bit longer to sign up since we will need you to fill out some information about yourself, but your account will be created nonetheless. Currently, the only option for signing up that can be used is the Facebook option, but the other outlets will be implemented in due time. Upon creating your account, you will be placed in the BetterU home screen, where you can explore the different functionalities of the app.

The home screen presents you with access to four options: your profile, your social tab, your individual mental health activities, and a menu to adjust settings (the gear icon in the top right). Let us visit the "Settings" first. Upon pressing the gear icon, a menu will pop up. This menu will allow you to adjust the volume of the app, log out of your account, or simply return back to the home screen. The volume can be adjusted by simply tapping the desired level on the bar or by pressing and dragging the bar to a specific level. If you wish to log out of your account, you may press the second option in the menu to do so, and it will take you back to the login/sign up page. To prevent any accidental logouts, we have implemented a confirmation page to ensure

that users that press the “Logout” option can verify that this is what they want to do. For now, let us return to the home screen.

The first of the three main tabs at the bottom of the screen is the “Profile” tab. Pressing on this tab brings you to a page that is all about you and your activity on BetterU. Some information from your connected social media account will be imported to this page, such as your profile picture, your location, and age. In addition to this, your friends on that connected social media outlet that already use BetterU will automatically be added to your friend’s list. You can see these friends by pressing the “View Friends” button to the left of your profile picture. In essence, this page represents what others will see when they choose to view your profile. This page is important because this will allow people to learn a bit about you before you all meet up to perform activities. If you wish to change any information about your profile, you may do so by pressing the “Edit Profile” button to the bottom-right of your profile picture. The “Settings” icon (gear icon) on the top right of this page is similar to the one on the home screen, except the settings are more focused on your privacy and your personal preferences, while the home screen’s “Settings” button revolve around changing settings for the overall app. By pressing the one on the profile page, you can access the following features: inviting friends, changing your password, setting notifications, adding security measures, seeing FAQs, and learning a bit about BetterU. In the top left of the profile tab, you can see a menu icon that, when tapped, will allow you to view both your friends’ and your activities, from BetterU posts to events that are being attended. Feel free to spend some time customizing your profile, looking at your friends’ posts, and changing some settings, and we will meet back at the home screen when you are ready.

Let us assume that you are interested in performing yoga, but you do not want to do this alone. The “Social” tab on the home screen solves this problem. Pressing this button takes you to a menu consisting of three options: find upcoming events near me, view your events, and make an event. There is a chance that a yoga event is already planned for a location near you, so opening the first option allows you to view a map of your surrounding area and search for events, which are marked by a blue marker (tap the marker to bring up the event name). It appears that there are only two events around you right now: Yoga Extravaganza and Zen Meditation. The first one sounds perfect since you are looking for people to do yoga with, so you can tap on the marker and view the event. Viewing this event will provide you with all the details about it, such as time and date, location, event host, a brief description, and attendees. If it fits your interests, you can request to join the event, and the host will receive your request. Now that you have sent a request, let us go back to the main “Social” menu and tap “View Your Events”. Here, you can view your upcoming events, as well as the events you requested to join. Furthermore, pressing on one of these events will take you directly to the event page in case you need to go back to it. Now, let’s assume that you aren’t interested in the events in your location. This problem is easily solved by the last option on the “Social” menu, “Make an Event”. This gives you the ability to create an event exactly how you want it. Based on the information that you enter, an event page will be created, and the map that you saw earlier will now have a marker containing your event

(not implemented yet). Now that all of this has been covered, press the “Home” button on the “Social” tab’s main screen to go back to your home screen.

After a long day of being out and about, sometimes you just want to have some alone time. This brings us to the third option in the home screen, labeled “Activities”. From here, you are able to perform a wide variety of mental health activities in the comfort of your own home or wherever you would like to be. If meditation is on your mind, you can press on that corresponding button to be taken to a set of sub-categories within meditation, such as guided meditation. Viewing the guided meditation menu will bring up a number of audio recordings created by professionals in the field of meditation. “Sat Chit Anand” sounds interesting, so try pressing that one. Now, all you have to do is sit back, relax, and listen to the voice that guides you. This activity path (Individual Activities→ Meditation → Guided Meditation → Sat Chit Anand) is the only path that currently works and will be the path that is used for testing, but more will come.

This has been a thorough walkthrough/narrative of not only how BetterU works, but also all the features that it contains. Because this is still a prototype, there are parts that are still under development. We hope that, despite a few missing back-end features, you are able to get a feel of how powerful and useful BetterU can be.

List of features with brief description:

Activities: Users will be able to perform certain activities that fall under one of the categories listed below. Within each category is a further subcategory of more distinct activities that either guide the user through an activity set, instruct the user on a set, time the user, or monitor the user during the activity’s duration.

- Meditation: Within the meditation category are subset of other meditation activities. Initially this subset includes meditation types, visualization, open monitoring, transcendental, guided, and focused attention. Here the user will either be instructed through a specific meditation style for a preset or self selected duration of time. Or, they will be allowed to select a recording that will guide them through a meditation.

- Yoga: Similar to meditation users will be able to select pre recorded yoga sequences to perform, follow an instructional guide of poses for yoga sequences, or simply be displayed a variety of poses for them to perform at their leisure.

- Exercise: Users will be able to choose from a list of exercises/routines that they can perform either via an audio/video recording or visual instruction.

- Journaling: Users will be presented with a variety of journaling tasks that they can choose from in order to perform. Ideally, these are meant to be performed on actual pen and paper, however, if the user so chooses they can also perform the tasks on the applications journal pad.

- Deep Breathing: Similar to meditation, users will be shown a selection of various breathing exercises that they can complete. Some exercises will be pre recorded audio.

Social Media

- Profile creation: Users will be able to create and manage their own unique user profile that serves as a base for all social activities on the application
- Social Media Integration: If the user already has a social media account (ie facebook, Instagram, twitter etc) then the application will allow them, if they so wish, to use this information in the creation of their profile as well as to establish connections with other users that they may know from the other social media platform
- View other user's profiles: Users will be able to view other user's profile information
- Chat with other users: Users will be able to send and receive messages view other users in a pseudo chatroom format
- Set up and or join public/private group events: Using a map based interface users will be able to create "pins" which will set up the time, description, and location for a group activity. Users can make this activity public so that all others can see it and join, or make it private so that only those with invites are able to participate. This also works in reverse to where users can view other pins in their area, search for pins, and join events.

Detailed Usability Specifications:

For our usability testing, we will be evaluating how easy it is for our users to navigate through our app. One of the tests we may use is evaluating how a user navigates our app as opposed to navigating an app that is similar to ours-- such as Headspace. If we observe that the user navigates Headspace more easily, we may adopt an interface that is similar to Headspace. The different methods that we can employ to test the interface is hallway testing, remote usability testing, expert review, and A/B testing. For hallway testing, we would select random people in a random location to test our app to reduce any bias. We would ideally want non tech-savvy users to be able to use our app with ease because that shows that the interface is structured so that almost anyone can navigate it. For example, we would measure the number of clicks it takes for a user to do certain tasks such as add a friend, change profile settings, make an event, find an event, and view an exercise. Another method that we can use to test the app is remote usability testing. This could be very efficient because it does not require a physical presence to test our app. We could use a video conferencing platform such as WebEx or GoToMeeting to test the usability of the app. We could also utilize expert review where we find an expert on mental health and/or fitness and have him or her evaluate the effectiveness, usability, and efficiency of the interface using Nielsen's usability heuristics which include visibility of system status, match between system and the real world, and aesthetic and minimalist design. Lastly, we could utilize A/B testing where we view the pages in the app's interface that maximize user interest and engagement. This involves producing two identical versions of a page for each functionality, change one feature on the pages, and see which

variation impacts users' behavior. All of these methods would be extremely valuable in testing the effectiveness, usability, and efficiency of our app as long as we reduce bias and plan our tests properly.

Initial evaluation/testing plan:

What sort of benchmark tasks would you have users perform to help evaluate the system?

In order to successfully evaluate our system we must evaluate the user's ability to complete some major tasks in terms of both usability and navigability. Meaning, the user should be successful at their task as well as completing the task in a reasonable amount of time. One major task to have the user perform is: create an account, log in to the application, then change one piece of personal information about yourself from the "profile" page. This will reveal pitfalls in the first major functionality of the application, profile functionality. The second task we will have users complete is: from the homepage of the application, navigate to a deep breathing meditation activity and begin playing it. This task will reveal difficulties in finding specific activities as well as revealing how long it might take the user to do one of the most important functions of the app. The final task we will have the user complete is: create a new meditation event in Meyers quad for this coming Friday at noon. This task will require the user to navigate to the social portion of the app, interact with our mapping system, then list out specific details and finally create an event. Depending on the interview techniques used in conjunction with these tasks, we might be able to gather important data on where the average user will struggle and how we can better suit the user's needs.

What kind(s) of subjective questionnaires would you use to have a user critique the system?

Questionnaires issued to the users would be created with the intent of gathering criticism relating to the applications functionality, ease of use, and overall design attributes. In addition to this we would also include at the end of the questionnaire a section where the user may add any personal comments, concerns, or complaints they had with the application that may not have been asked/addressed within the questionnaire.

In regards to functionality, questions asked would try to see if the user felt that the application had a sufficient amount of functions, if features under said functions were enjoyable, relevant, and relatable, if the application assisted them with their goals, and if the application had any lags, interruptions, bugs, or errors. Such questions, for example, would be "How satisfied were you with the application's features?", "Did you find the application helpful with _____?", "Were there an extensive variety of features on the app?", and/or "Did all features perform smoothly and without delays?"

For measuring the ease of use of the application from the user's perspective we plan to see primarily if the application's features are easy to navigate through, locate, and are intuitive/

self explanatory. Overall, these subjective questions would focus on whether or not the user had any difficulty in trying to complete a task, for instance “Were you able to find a _____ activity?”, “Could you locate the page to change your account settings?” or “Did you have any trouble understanding what was contained within a page/feature?” Such questions would compose the majority of the questionnaire as the most pertinent to us for the application is the ability for the user to use it without any aid and little to know teaching.

Lastly, as a secondary measure we would like to question the user on the aesthetic quality of the application. Though our primary concerns are simply whether or not the user can use the application as well if it serves its purpose of improving user quality of life, there is still the need to make the application visually appealing both for the user’s experience and for application success. Questions asked here would be quite standard and would be similar to the form of inquiries such as “How did you enjoy the app’s layout?” or “Was the application’s design pleasant?”

What kind(s) of interview questions would you use before a user tries your system? After?

Interview Questions Before Testing System:

- Where are you from (what city and what country)?
- Did you have internet access growing up as a child?
- How would you rate your familiarity with technology?
- What is the highest level of education you have completed?
- Overall, how would you rate your mental health?
- Have you ever or are you currently using an app aimed towards improving mental health or fitness (e.g. Headspace, Breath Ball, Pacifica)?
- Have you ever used any type of stress relief activity (therapy, stress relief app, exercise, meditation, etc.)
- Do you have any questions before we start?
- Do you go to therapy? If so, how often do you go to therapy?
- How often do you work out in one week?
- How often do you work out with others in one week?

Interview Questions After Testing System:

- Why did you take the approach that you did to create an event?
- How did you find the experience of using this app to create and edit your profile/make an event/join an event/make a friend/upload content?
- How did you find the language used in the app?
- How did you find the navigation (or search functionalities)?
- How did you find the layout of the content?

- How did you find the amount of scrolling you had to do on your phone to complete the task?
- Did you notice whether there was any other way to join an event/make an event/edit profile/add a friend?
- Can you tell me what you think about these icons?
- What did you like the most from the app? Why?
- What did you like the least? Why?
- As you performed the tasks, did you notice these headings or menu options in any of the screens you saw?

What are other evaluation techniques? Why is it appropriate or not appropriate to use these?

In addition to interviews and questionnaires, there are other evaluation techniques that will be beneficial for determining the usability of our BetterU application. For example, a focus group is another useful evaluation technique because it provides qualitative data, which can be evaluated at greater detail. Furthermore, the main advantage of a focus group is that it is useful for gaining a consensus view on a topic as well as highlighting potential areas of conflict. In addition, often, focus groups are easy to assemble and are less time consuming than individual interviews.

In relation to our BetterU application, a focus group is an appropriate technique to use because it will give a detailed insight into the application's usability and the user's overall satisfaction while using the application. For instance, a potential open-ended question to ask the focus group would be *"If you had the opportunity to add a feature to this application, then what would you choose?"*. If the participants respond by stating that there is no additional features needed, then the goal of the application is met because our target users are satisfied with the application. On the other hand, if the majority of the group agrees that the addition of this feature will better their experience, then this feature will be added to meet the user's demands. Overall, the use of a focus group is a useful technique for evaluation because it can provide us with information that can not be gathered through other techniques.

Earlier, we listed benchmark tasks that would help evaluate our system. There is an aspect of direct data gathering here, since the users will directly report to us in questionnaires or interviews whether or not they were able to complete the tasks requested, as well as any feedback they may have. However, because proto.io works with Lookback to provide a recording feature, we may also be able to indirectly gather data that will help evaluate our prototype. The recording feature will provide information such as the time it took a participant to complete each task, the amount of time spent on each screen, the number of errors he or she encountered, and the amount of time that was spent with each error. These pieces of information are very important because they will tell us what is going well in our prototype and what to look out for in our prototype. For example, if several participants seem to be spending an excess amount of time

on one screen compared to other screens, then there must be some reason that is causing this, whether they are confused or simply intrigued.

Aside from the aforementioned techniques for evaluating our prototype, there are a couple theoretical methods of judging the performance of it. For example, Fitts' Law can be used to measure the effectiveness of our designs. The thumb represents the computer mouse in this case, and for all phone users, the thumb typically resides in the same general area. So, we want to keep high-risk items away from this area and keep more common, less detrimental items within this area for easy reach. Distance and size have a big impact on how easy items will be to access as well. All of these concepts are encompassed in Fitts' Law, so this concept is something that could be considered. In addition to Fitts' Law, there is also the Human Processor Model (or MHP). By estimating perceptual, cognitive, and motor "processor" times, we can predict the performance of our participants and compare these approximations to the actual times that it takes them to complete tasks. If calculated correctly, the recorded average time of each task should be relatively similar to the estimated times, and any deviations would denote the idea that something is causing a disruption to the process. However, the MHP might not be appropriate for evaluating our system because it cannot take into account the time it takes for participants to complete more abstract tasks. For example, if we want to test a user's ability to create an event, the time that it takes to complete this task varies greatly based on how creative they wish to be with naming it or finding a location. So, while Fitts' Law is appropriate for evaluating our system, the MHP might be less effective in doing so.

References

1. The Art of Asking Questions in Usability Testing | Akendi UX Blog. (2018, June 22). Retrieved November 2, 2018, from <https://www.akendi.com/blog/the-art-of-asking-questions-in-usability-testing/>