Mindfulness Mobile App

# Staffing

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# Overview

Mindfulness means a lot of different things depending on the context, but primarily it means increasing one’s attentiveness and awareness to what is going on in and around oneself without trying to change it. In some cases, it looks like “meditation” or a guided activity you would do in yoga class. But, it can just as easily be a brief unnoticeable period in which an individual chooses to pay close attention to what is going on in this specific moment in his/her world. Mindfulness has been shown to be very effective for many different types of psychological and physical problems and for making mentally healthy people more resilient to stress.

Sometimes mindfulness is taught on its own and sometimes it is taught as a piece of a therapy protocol with other elements (such as cognitive or behavioral elements). In regular face-to-face therapy, a therapist would lead a person or group through mindfulness exercises and most likely assign practice for homework. These exercises seem self-evident, but they are actually quite difficult to master without ongoing practice. Sitting quietly and breathing, for example, is hard for many people to do because they experience all kinds of distracting thoughts during the exercise that take them out of the moment (and thus, out of the intended mindful state).

It may seem like it makes sense to ask a person how stressed they are before and after a mindfulness activity, or if they activity “worked” but this is actually contrary to the point. Relaxation can be a side effect of mindfulness but it is not the goal. The goal of mindfulness is just to be present in the moment, whether it is comfortable or uncomfortable. So, this app will not include a distress rating before and after exercises or a self-assessment. It will include a log of mindfulness practice so that a user can track his/her practice.

This app will be for Veterans and Service Members to practice mindfulness skills. While the audience for this app will not be restricted in any way, the target group is recent returnees (deployed to Iraq and/or Afghanistan).

The content of the app is intended to be generic; it is not for one specific psychological problem or part of a particular treatment. The language in the app is not intended to imply distress but to focus instead of increasing resilience and promoting mental health.

Although the app does not target PTSD, the reality is that many people with PTSD will use it. Therefore, a few meaningful findings from the scientific literature about how to use mindfulness with people with PTSD have been followed. Instructor-guided exercises are preferable to exercises that are primarily silent and that 5-10 minute exercises are preferable to longer (30-40 minute) ones. Also, some literature says that PTSD patients may have a hard time with more abstract exercises, or ones that require accurately labeling internal states, so it is recommended that easier exercises precede more challenging ones. While we are not putting any hard controls on the order in which users may do the exercises, the UI should order them from simplest to most difficult.

The goals of this app will be to:

* Educate users about the value of mindfulness for building resilience and decreasing psychological and physical difficulties.
* Provide portable mindfulness exercises that can be used when and where desired.
* Remind users to engage in mindfulness activities, as desired.
* Allow users to log mindfulness activities (both those completed on the phone and those done elsewhere).

This app will provide sufficient education and guidance to be used by a savvy consumer as a stand-alone tool. However, the expectation is that it will be used in conjunction with a health care provider in standard face-to-face care.

In order to abide by privacy constraints, version 1.0 of this app will not include any capability to transport data off of the mobile device.

# Mobile Platform

Mindfulness app will initially be developed for iOS. Expectation is that app may be developed for multiple smart phone platforms following Feature Complete version 1.0.

# Software Design Requirements

Please build app so that it is compatible with iOS 4.0 or later. If this needs to be negotiated for some reason related to functionality of the app described below, please consult with Julia Hoffman.

All content for this application should be externalized from code into a single editable XML document (or, time-permitting, a specially constructed editor).

The user will be logging mindfulness activities. Please ensure that this data is stored in such a way that when upgrades to the app are necessary, the data that has been collected will be retained.

It would be optimal if this app was less than 20 MB in order to be downloadable in all locations without requiring WiFi. If this is not going to be possible given the requirements, please let Julia Hoffman know so that editing decisions (or a decision to go over the 20 MB) can be made.

This app must be 508 compliant. Please see the document on 508 compliance for reference.

# User Experience Requirements

Mindfulness is, at its core, about simplicity and focus. The design and navigation should be clean and simple.

While slick design elements can be used, most features should be consistent with the standards of the operating system for which the app was built.

The look and feel, including logo, splash screen, and other design elements, should be consistent with the rest of the apps developed for the National Center for PTSD.

The partners in this app are the National Center for PTSD and the National Center for Telehealth & Technology. For reference, these logos have been made available on the project management site.

Please note that in all of these apps we have elected to use cartoonish images with the specific goal of avoiding photographs of real human beings (photos of nature or other non-human subjects are fine). This is because we have found that our users react poorly to images of people we use because we cannot accurately represent service members or accommodate all demographic groups. Images for buttons or other elements can be found on iStockPhoto.com and put in a lightbox for consideration by the project owner. Images from other apps (e.g. PTSD Coach, ACT Coach) can also be reused for consistency if desired.

This app must be 508 compliant. Please see the document on 508 compliance for reference.

# Program Evaluation and Metrics

Anonymous usage data will be collected from the app via Flurry (www.flurry.com). For information on the Flurry account, so that appropriate tracking elements can be included in the software, please contact Julia Hoffman. Future iterations of this app will allow for collection of program evaluation data.

# Content

Written content, project-specific partner logos, and media will be found at <http://projects.drjhoffman.com> under the Mindfulness Project. Code may be reused from other projects found on this site as well.

# Menu Structure

Overview of Top Level Menu Items

# Launch Action

Upon first launch:

* Display splash screen with app name and partner logos
* Display EULA and request agree/disagree (if disagree, exit app)
* First launch orientation screen
* Go to Set Up screen (like in PTSD Coach) so that user may choose photos or mp3s to use if desired

Any other launch:

* Display splash screen
* Go directly to home screen UNLESS user was in the middle of a mindfulness exercise (practice), in which case user should be returned to their place in case s/he wants to log the activity or the phone turned its screen off mid-activity.

# Home

The home screen should be clean and include 4 major buttons and 2 minor buttons.

The major buttons:

* Learn
* Practice
* Track
* Set Reminders

The minor button:

* Set Up
* About

The idea of having 4 major buttons and 2 smaller buttons mirrors PTSD Coach, but is not an absolute necessity. UI designers can certainly feel free to come up with alternative ways to lay this out. There should be a help button that includes a brief description of each of the buttons (UI: Does this seem necessary? Are the headings not self-evident? And would there even be a space for a help button? One possibility is to move the set up button to the practice section, since that’s what it’s actually serving.)

# Learn

This section is for educating users about the basics of Mindfulness. Please see PTSD Coach for an example of how this should look. There will be a list of topics where each topic is clickable and leads to a page of readable information. Unlike PTSD Coach there will be no “tap to listen” button” or accompanying mp3s.

# Practice

This section allows the user to engage in mindfulness exercises. There will be up to 20 exercises (depending on space constraints), each of which will be listed by title. When the title is clicked, the user is directed to the exercise. Each exercise is different – some include animations and accompanying audio (plus closed captioning for 508 compliance), some are simply text on the screen with a chime noise to indicate start and stop times, some use the media (mp3s and photos) located on the phone, and some require user interaction. The narrated exercises take a specific amount of time to complete, but the user may select a period of time for all unnarrated exercises. Please see the content document for information on each tool.

## Practice Exercises:

* Mindful Breathing
* Mindful Walking
* Mindful Eating
* Mindfulness on Ice
* Mindful Listening
* Mindful Looking
* Observe Thoughts: Leaves on a Stream
* Observe Thoughts: Clouds in the Sky
* Observe Sensations: Body Scan
* Observe Emotional Discomfort
* Visualize: The Mountain

Specific exercises may be selected as favorites. Please provide UI consultation on how best to display this. One option is to have a favorites button on the initial practice page (with the list of exercise titles), another option is to have the list dynamically display with favorited exercises listed first.

After each exercise the user should be asked if s/he would like for it to be logged, and if so, the log will be automatically filled in. [Please see Log section below to see what information needs to be captured about the exercise.] User will receive a message at the end of the practice stating that the exercise has been logged. S/he will then be offered the opportunity to (1) do this activity again, (2) try a different mindfulness activity, (3) add a comment about this activity the log, or (4) return to home screen.

Example path:

One of the tools is just be aware with a chime setting since it’s unnarrated. But for the random practice, user needs to select how long to do the exercise for (10 seconds – 2 minutes), if they want a chime to start and stop.

# Track

How about the following choices?

* Edit / View Existing Logs
* Create a New Log
* Track Your Progress over Time (user can select an option from logs of last 7 days, last 4 weeks last 6 months, last 12 months. Each will display a corresponding graph – click on a point in graph to view details of logs. Not sure if Kenny can code the last part.

This section provides a log of how frequently the user has been practicing mindfulness activities (both on and off of the phone) and allows the user to input off-phone activities.

When the user selects track from the home screen or tabs, s/he is taken directly to the log. The following information is collected:

* Mindfulness exercise (drop-down list of activities in app plus Other option with text box)
* Date
* Time of practice (start time of practice)
* Duration of practice(in minutes and seconds)
* Comments (text box)

After the user engages in an exercise in the app they will be asked if it should be logged and if so, the log will be automatically filled in. The only field that cannot be automatically filled is the comments box, which can remain empty unless the user chooses to enter the activity and insert comments separately.

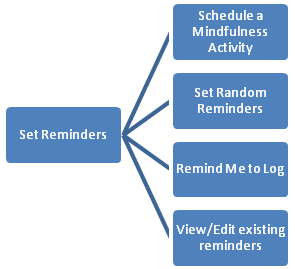
There should be a button that says “Enter Activity” on the page, which will lead a user to manually enter the information above for a new activity.

Users must be able to delete activities (log entries) from the log and edit existing entries.

UI consultation is requested for ways to represent this information. Is there an interesting and useful way to display it? A timeline with a point on each day that the user engaged in an exercise, and an opportunity to click on the point for more info?A table? Ideally, we want users to be able to see how frequently they are practicing and for how long, so that, for example, if practicing ceases at some point, that would be evident from a glance at the log. FYI: log refers to the entire listing of events, and each individual event is an activity.

User can email logs to him/herself and then print them as desired. This may mean that logs need to be formatted to be sent as an encrypted PDF (or CSV if this is not possible).

# Set Reminders



The set reminders section allows a user to have the app provide stimulus to: (1) engage in an exercise according to a plan (2) engage in an awareness exercise at a random time, (3) fill in the mindfulness log. The user can set a new reminder or view and edit existing reminders.

To add a new reminder, a user first selects: Schedule a Mindfulness Activity, Set Random Reminders, or Remind Me to Log. Planned reminders allow the user to select an exercise and add it to their calendar on a single or recurring basis with an alarm. Random reminders simply remind the user to engage in general awareness (come back to this moment) at frequency chosen by the user with some constraints (times at which the reminders will not occur in order to accommodate for work, sleep, etc.). In both cases (planned or random), the alert that the user receives (from the calendar or a system alert) should lead the user back into the appropriate activity in the app.

Question for developer: how to implement the random reminders? Will not make sense to put them into the calendar, but will need system reminders.

The remind me to log function allows the user to set a reminder (daily, every other day, or weekly at a user-selected time of day) to fill out the mindfulness log. This reminder, when activated, should alert the user to fill out the log and bring the user directly in to the log screen when clicked.

# Set Up

The set up option allows the user to select photos and mp3s from the phone that can be used in the mindfulness activities. This consists of one introductory page that instructs the user to pick photos and mp3s and then a selecting tool for each. This is almost identical to the set up function in PTSD Coach, except that it does not include selecting contacts.

# About

The about screen is a single, scrollable page of text, logos, and links. The goal of this page is to introduce the collaborators who created the app and to provide access to their respective websites.

# Flurry Variables

Please install Flurry tools so that data can be collected from the app. List of variables to collect:

* All button presses
* Which exercises are used, time, duration