



.calm

Task Analysis

## Introduction & Mission Statement

Anxiety disorders are among the most common mental health disorders in the United States. They can be chronic, debilitating, and incapacitating for those who suffer from them.

.calm aims to support those living with anxiety by encouraging self-awareness through the use of cognitive behavioral therapy.

.calm—it's CBT in your pocket.

## Task Analysis Questions

### Who is going to use the system?

We are serving two basic populations. Both populations suffer from anxiety and are aware of how it negatively impacts their lives. One population is in therapy, and the other is not.

### What tasks do they now perform?

Both populations have individual rituals that they perform to calm themselves, with mixed results. The population that is seeing a therapist also meets, usually weekly, with a therapist, and individual therapy varies.

### What tasks are desired?

Both populations desire a way to track increases in stress or anxiety so that they can address it earlier and are less overwhelmed. They also wish to keep track of other pertinent health-related data—such as amount of sleep obtained every night—in order to better understand how anxiety affects their health.

### How are the tasks learned?

The tasks that the program offers—logging and visualization, guided questions, and downloadable modules suggested by therapists—are designed to complement tasks that a therapist might use with their clients. If an individual is seeing a therapist, logging information and answering guided questions naturally complements the work that a patient does in therapy. If an individual is not in therapy and the tasks seem more confusing, the built-in help system will explain for what purpose the program solicits certain information. Because the tasks are designed to facilitate awareness, the process will be as transparent as possible.

### Where are the tasks performed?

Because the software runs on a mobile device, the tasks can be performed wherever and whenever the individual wishes to do so. The individual may or may not be under stress, which might make performing the task in public less appealing. Because of the potentially confidential nature of the tasks, they are also more likely to be completed in a private setting.

### What's the relationship between individual & data?

The individual's data is protected by a password. If the individual wishes to share his or her data with a therapist, the software will support this task. The therapist can use this data to suggest relevant workbook modules that can then be downloaded.

### What other tools does the individual have?

Friends, family, therapist, books, self.

### How do individuals communicate with each other?

Individuals using the software do not communicate with one another within the software, but may elect to do so in other contexts. An individual can indirectly communicate with his/her therapist by electing to have data shared with the therapist, and the therapist can respond within the software by suggesting interactive modules for their client. The software does not support direct communication, but is intended to supplement face-to-face therapy by providing more neutral information sharing.

### How often are the tasks performed?

Varies, but at least daily.

### What are the time constraints on the tasks?

There are no time constraints on the tasks.

### What happens when things go wrong?

If anything goes seriously wrong while performing the tasks, an individual must contact his or her therapist who can evaluate the situation and determine what type of care is needed.

## Revised Tasks

### Logging

This task is a tool to track trends in sleep, moods and health to facilitate awareness. It is done on a daily basis, both to gather enough data to sense trends, and also to generate routine.

## Visualization

The dynamic visualizations present the data in a way that it is meaningful to the individual using the software. The client can generate graphs of any single data type (sleep, health, etc.) or correlate two different data points.

## Guided Question and Answer Session, With or Without a Therapist

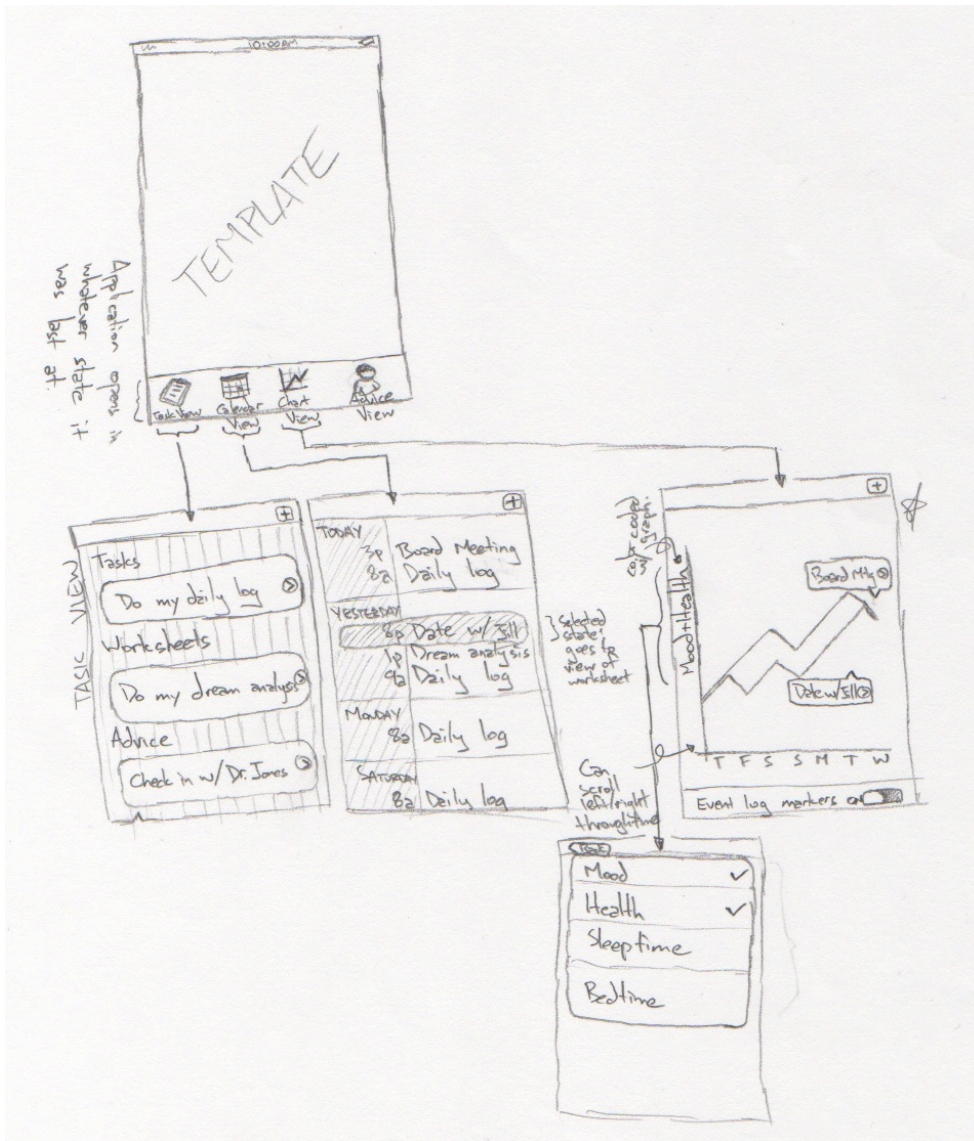
Guided question and answer worksheets are a common CBT tool and are often used by people who want to independently manage their anxiety. The generic worksheets can be filled out on an event by event basis.

If the client is working with a therapist who uses CBT techniques they can have worksheets tailored by their therapist to address particular issues. Though it requires a lot of involvement and commitment from the therapist, it is as much a tool for the therapist as for their clients. Used in conjunction with regular therapy sessions, the tool can increase the effectiveness of therapy and promote the client's self-reliance. These modules will be suggested to the client by the therapist based on data collected with the software, or information discussed in a therapy setting.

# Storyboards

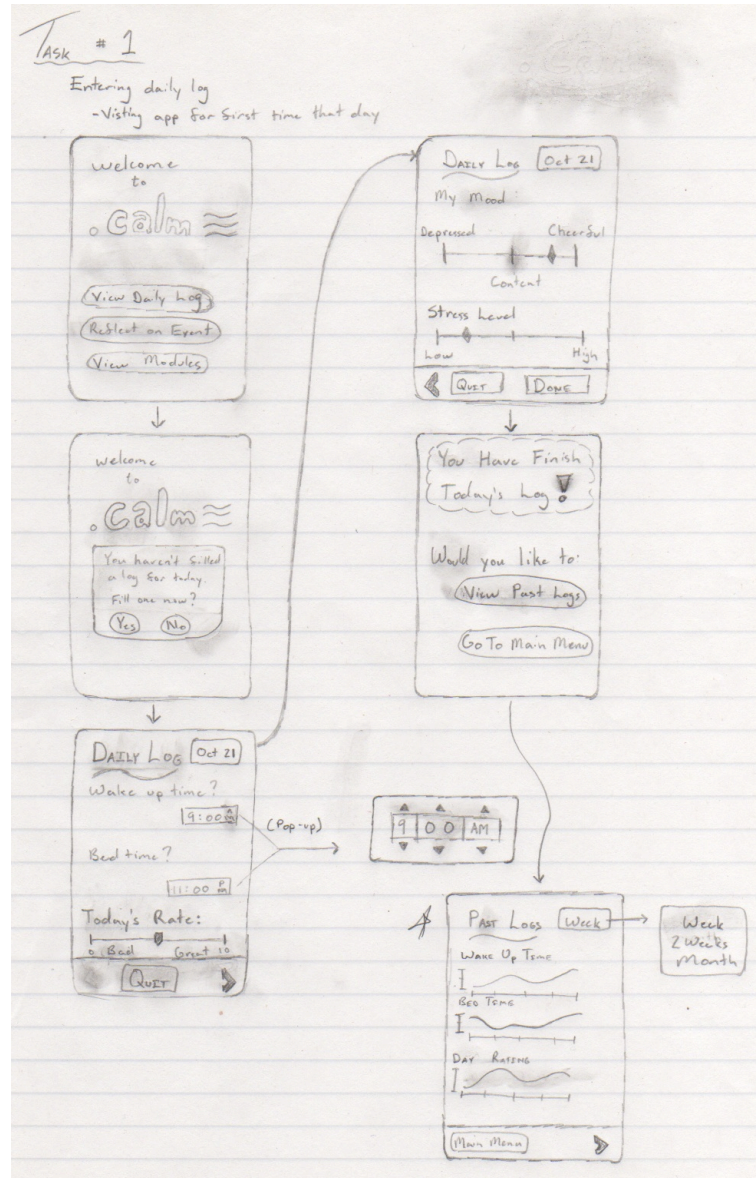
## Directed Interface

This calendar-driven, list-view interface concept uses traditional footer navigation and presents each of three main tasks separately. This interface directs the individual to complete specific tasks because they persist in the footer.



## Responsive Interface

This interface concept responds to the activities of the individual, changing state based on the user's wishes. For example, the interface might prompt "would you like to fill out today's log?" If the individual selects yes, the daily log will be shown. If the individual selects "no," it will not be shown.



## Visualization-Driven Interface

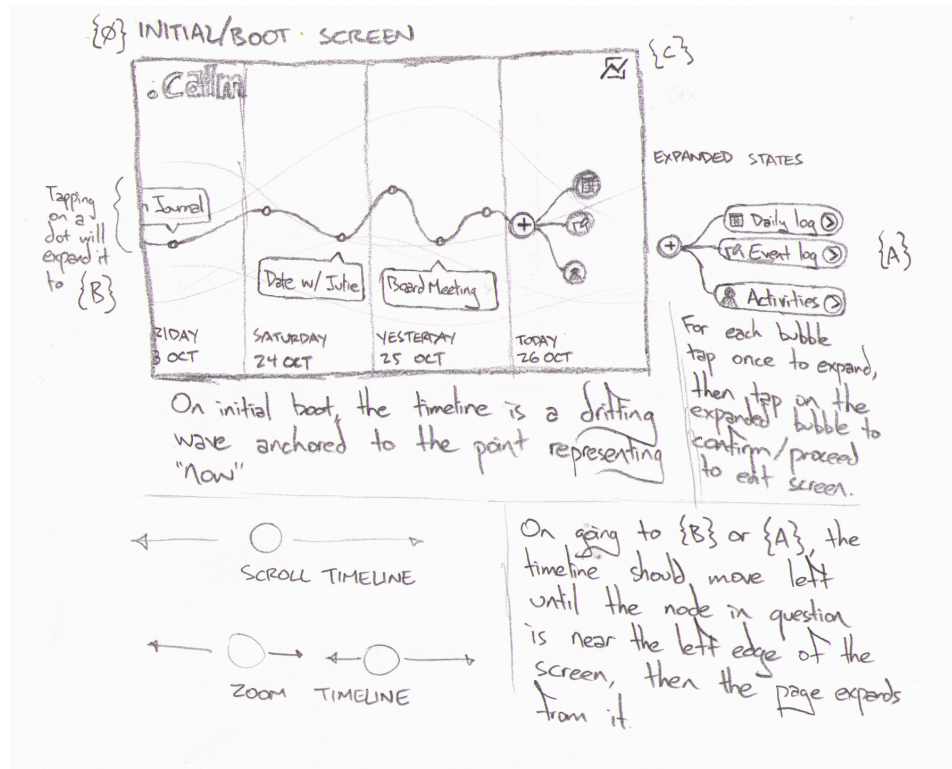
This visualization-driven concept introduces tabbed browsing on the lefthand side. The user drags one of the tabbed “worksheet pages” from the left to the right in order to open it. The tabs act as a built-in progress meter because the individual can see what has been completed and what is left to do.



# Selected Interface Design

## Interface Description

Our home screen, displayed on a landscape orientation, displays the .calm logo and a wave emanating from the left-hand side of the display (see  $\emptyset$ ). The wave, drifting up and down, is anchored on the right by three navigation elements: daily log, event log, and activities. The first two navigation elements are always present, but the latter element appears only if the individual is working with a therapist.



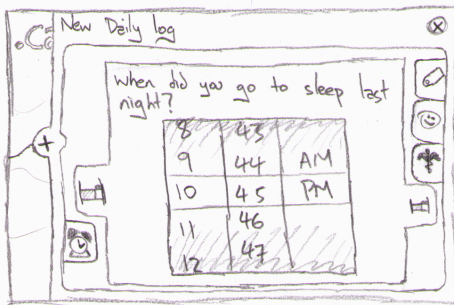
The wave and the anchor are two primary metaphors that run throughout the interface. If the individual clicks on one of the navigation elements, the wave shifts to the left and the “new item” or “daily log” page appears (see A, B).

If the software has been used before, several data points appear along the wave in a sequential manner, drifting with the motion of the wave. These data points represent individual events logged in the system. For example, one data point may represent an anxiety event, or a completed guided worksheet. In the bottom lefthand corner, there is a toggle button which allows the individual to change the wave metaphor into a line



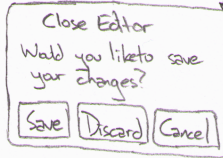
representing data within the data points. For example, the individual can elect to arrange the data points based on how much sleep they got, or anxiety levels (see C).

{A} NEW ITEM PAGE

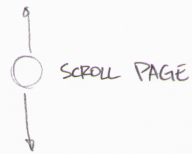
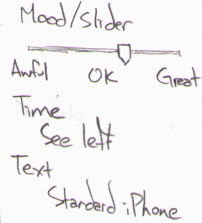


"Page" or "sheet" metaphor - unfinished questions on the left, can be dragged by the tab to center work area, and on to finished right.

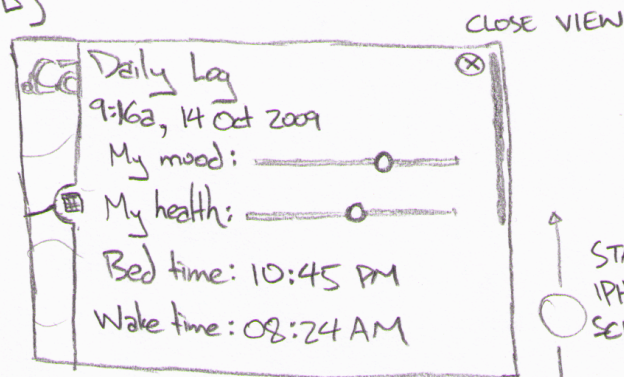
CLOSE EDITOR



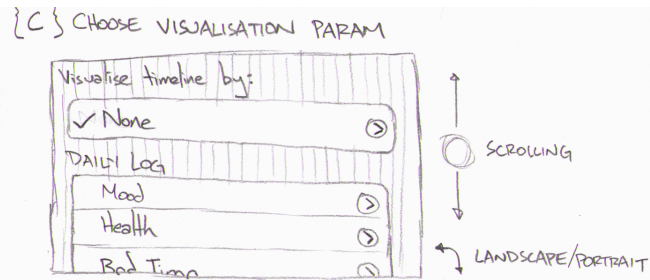
STANDARDIZED CONTROLS (EXAMPLES)



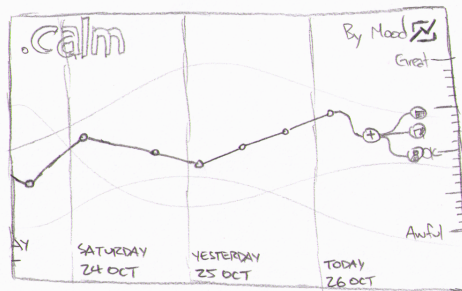
{B}



Tapping on an existing event dot in {A} brings you to a read-only view of your responses to that activity.



The user should be able to choose a y-axis along which to graph the timeline



The timeline is now graphed by the user-chosen axis.

## Design Rationale

When the user is completing an activity in the log or on a therapist-generated module, they drag the tabs on the page from the left to the right. This is similar to the interface introduced in our early Visualization-Driven Interface concept.

The metaphors within the interface—waves, anchor, and the pages of a workbook—were deliberately chosen to be calming, engaging, and promote focus and attention. We believe that the routine of “flipping pages” in the tabbed workbook serves a ritualistic function and will calm the individual.

We wanted the individual to always be within one step of the main page for ease of navigation and to promote a feeling of overall simplicity. It was a major concern of ours that the individual not feel overwhelmed by the information architecture.

## Functionality Summary

- Allows individual to complete daily log of overall health, mood, amount of sleep, etc.
- Allows individual to log a specific event, such as an anxiety attack
- Provides dynamic visualizations based on logged data
- Allows individual to complete guided CBT-style question and answer sessions
- Allows individual to download custom CBT content from therapist

## Scenarios

Below are three scenarios detailing how the software would be used in various contexts. These scenarios were chosen based on information gathered from various mental health professionals (a social worker and a psychiatrist) and conversations with our contextual inquiry participants.

### Logging

Alice is 26 years old and has been in therapy for a couple of years. She works as an Administrative Assistant for Sprint in downtown Seattle. As part of her anxiety management Alice tracks her moods and physical well-being on a daily basis. Every morning she touches "New Log" on the opening screen of [.calm](#) and pages through the different categories, assigning a value in each from one to ten.

### Visualization

After using [.calm](#) for several weeks, Alice touches the graph icon, which prompts her to choose her criteria. She chooses "health," and a line graph is displayed based on the data collected in her daily log. She sees a big dip two weeks back and notices that there are several points representing her event logs during that period, helping her realize a connection between her physical health and anxiety.

### Guided Question and Answer Session

Brandon is a 30-year-old mechanic. He has tried therapy in the past but found that he didn't feel comfortable with it. He has had mild anxiety and depression most of his

life and has done a lot of reading about the subject in hopes of understanding and managing his anxiety on his own.

One night after work Brandon gets into a fight with his girlfriend while visiting her at her apartment. They resolve their fight and Brandon goes home at the end of the night knowing that the fight was based on a misunderstanding and their relationship is not harmed. However, Brandon cannot stop thinking about the fight, going over in his mind things he could have said differently, and he starts getting more and more anxious, wondering if everything really is okay.

Brandon notices that he is experiencing anxiety and turns to the [.calm](#) event log. He touches "new event" and a paging interface opens, each page having a question that walks him through what was said, what happened, and the thoughts that he is having about what happened. The questions help him identify the connection between the thoughts he was having and his emotional response to those thoughts. By identifying the stories and scenarios that Brandon was starting to build in his mind he is able to let go of them and his anxiety abates.

### [Interactive Modules With a Therapist](#)

Cynthia is 22 years old and is a recent college graduate. She has been in therapy for four years, meeting with her therapist once a week. Recently her therapist, Dr. Donaldson, has begun giving Cynthia CBT assignments to work through in between their sessions.

Cynthia and Dr. Donaldson meet on Wednesday afternoon. They begin their session normally, but towards the end of the session Dr. Donaldson and Cynthia discuss the concepts introduced in the latest CBT module Dr. Donaldson assigned to Cynthia, a module about daydreaming. Cynthia has been using [.calm](#) to keep track of her daydreams, filling out short worksheets by touching "CBT worksheets" and using the paging interface. By filling out the assignment as the daydreams occur, she has noticed a trend of fantasies she has been having while driving about getting into a car accident. Cynthia has never remembered that she was having these daydreams before, since she only has them while commuting to her new job 45 minutes away.

Based on their conversation, Dr. Donaldson assigns a new CBT module, tailored specifically to track what else is going on when Cynthia has the daydreams. The next time Cynthia touches "CBT worksheets," the new prompts are available. In working through the new questions Cynthia and Dr. Donaldson are able to quickly determine

that Cynthia has the daydreams especially on days when she has had a difficult day at work, and that feels she cannot quit because it's her first job after graduation. The information gathered during the week with the aid of the worksheets allows Dr. Donaldson better insight into where they should focus during therapy sessions. The process of filling in the worksheets gives Cynthia a feeling of accomplishment, and over time the CBT techniques help her manage her anxiety on her own.

## Appendix

### Therapist Interviews: Michael Keen and Treg Isaacson

We felt it was important to continue our contextual inquiry process and speak with therapists who use CBT tools with their clients. We met with two people, first with Michael Keen, MSW, who works at Sound Mental Health on Capitol Hill. Michael has about 70 clients, all of whom are transitioning from prison systems into independent living. He uses a combination of techniques, mostly DBT, which is a branch of CBT.

We also met with Treg Isaacson. Treg is a therapist at Hall Health on the University of Washington campus. He also specializes in the practice of DBT. He has been a licensed mental health counselor since 1990. As a therapist, he deals with a large number of patients, meeting with each patient every few weeks.

Both Michael and Treg use surveys and worksheets to gauge the level of their client's anxiety or depression. Michael was very excited at the prospect of a mobile device that could encourage his client to fill out the "homework," as he put it, in the moment; one of the biggest problems he encounters with CBT is that clients forget to fill out the worksheets, or fill them out directly before a therapy session, often days after the event they are describing. On the other hand, Treg was concerned that a mobile device might interfere with certain kinds of anxiety treatment, specifically the treatment of phobias. Treg explained that when trying to cure a phobia, he encourages his client to stay in close contact with the object that creates the phobic reaction in order to desensitize oneself. He worries that a mobile application may instead act as temporary relief from the phobia object, which could prove to make the level of panic the client endures in future confrontations higher. However, as our device is designed primarily for people suffering from social anxiety, not phobic anxiety, we don't think that this is an impediment to our design.