Off the Couch and out of the Hospital: Mobile Applications for Acceptance and Commitment Therapy

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Abstract

This paper describes the research and concept development process involved in designing a mobile app for depressed youth learning to practice mindfulness based psychotherapy entitled Acceptance and Commitment Therapy (ACT) program at Trillium Healthcare Centre in Toronto. Our process involved identifying aspects of preexisting mobile applications for mindfulness that may be discouraging for youth with depression and devising strategies to overcome these negative messages within the ACT Application. We propose to present a working prototype of mobile application at the Mobile HCI conference.

Author Keywords

Mobile Applications, User Experience, Mindfulness Therapy

ACM Classification Keywords

Methodologies, Theory and Methods, Natural Language, Prototyping.

Introduction

The ACT app is a mobile application built with participatory design [1] (uniting designers, clinicians and teen clients) to migrate the ACT therapy program

successfully to a mobile app. The app intends to augment the therapy offered in a healthcare setting. It works both as a diagnostician[1], helping users to understand thoughts and feelings, and directs users to appropriate meditation and diffusion strategies. The co-designed app embraces the manners in which these teens choose to use mobile devices, offering specific strategies they wish to access outside of the clinic. The look and feel and navigation of the app aligns with user testing, offering fun, colourful, and creative experience. Rather than tracking progress in standard ways, we provide a visualized creature that relays the user's time spent employing ACT in various areas of their life. We propose a working demonstration of the app for the Mobile HCI conference.

Our partners at Trillium Healthcare Centre, Sheri Turrell and Mary Douglas, facilitate the Acceptance and Commitment Therapy program for teens suffering from severe anxiety and depression [2]. Our research clients are a group of 15 youth who are currently undertaking, or recently graduated from the three- month ACT program at Trillium.

Designing for Mental Wellbeing

Creating the ACT app is challenging because it requires reconsiderations of where and how therapy happens. ACT requires consistent practice, such as meditation, goal settting and revision, and diffusion of unhelpful thoughts in situations where anxiety and depression occur. Success in ACT therapy comes from

practice outside of therapy sessions, in contexts where stress and anxiety actually happen, such as school, or disagreements with family. Our team at OCAD University employed critical ethnographic methods [3] to capture everyday use of therapy and media devices, to ensure the app would effectively provide a therapeutic experience that augmented the clinic- experience. Our team of designers and artists developed concepts that communicate with the teen audience.

Employing interaction design methods, we used an interactive consultation process with Clinicians and client stakeholders to ideate the user experience and to sketch a user experience design for our developers and designers.

Finally, we reviewed all available mindfulness apps on the market, seeking to match their affordances and overcome their weaknesses. One competing app, Optimize [4], collects and collates 'hard' data showing how often users meditate and achieve their goals. These apps tend to discourage youth struggling with motivation, or not meeting their expressed goals and expectations. Differently, our ACT app rewards all action on the app, rather than 'success.' Instead of visualizing data 'success' and 'failure' within the app, our ACT app monitors usage and responds by changing the 'creature' on the home screen, that represents user's psychological wellbeing.

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[1] Although the application is intended to compliment therapy, rather than replace it.
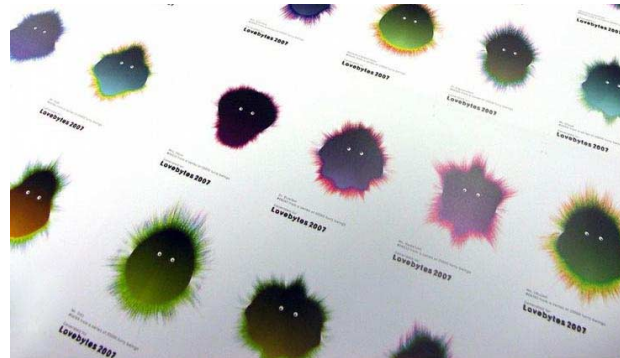
Figure 1 Creatures change shape according to user data.

Unlike many other mindfulness apps, the ACT app is tailored for youth. It is fresh, playful and positive without being patronizing. It also has sensitive diagnostic features that determine which activity within the app is best suited to the user's current mental state through a series of questions, such as,
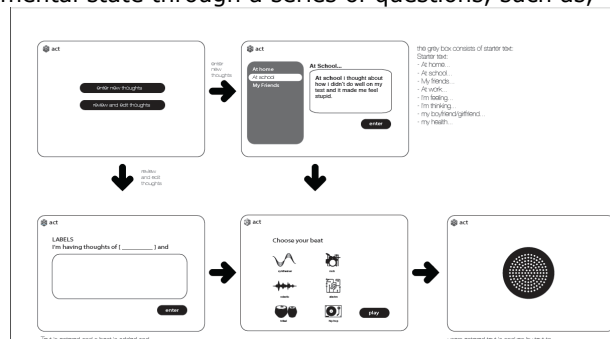

Figure 2 The diagnostic questionnaire identifies user need and directs them towards activities within the application.

"what's getting in your way?" and "are you able to do what matters?"

Through this diagnostic process, users are directed to one of three activities in the app: diffusion, goal setting, or meditation. Diffusion helps users let go of thoughts that are unhelpful ruminations. Using a combination of text-to-speech and autotune software, users can hear these thoughts read back to manners that remove their gravity, which is a diffusion technique. Meditation activities include pre-recorded meditations from the ACT program at Trillium, with options for adding different background noise. Goal setting supports users to set SMART goals and rewards them for taking action towards goals rather than simply asking if the user has achieved the goals. Users have options to receive notifications during times when they most need to work goals. Users are asked to reflect on their goals weekly with the statement "this week I've worked on ….."
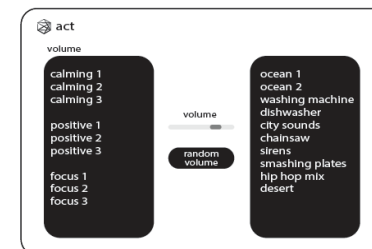
BE PRESENT

Figure 3 Guided meditations from the ACT program at Trillium with soundscape options.
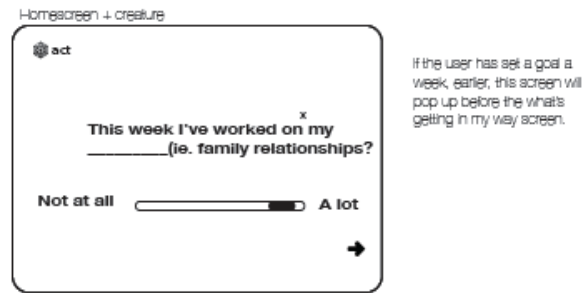
Figure 4 Sliding scale to evaluate goal activity.

Following the mindfulness philosophy of ACT psychotherapy, our ACT App does not punish users for neglecting the app. It encourages use by making interventions for episodes of anxiety and depression that are artful and fun.

For the mobile HCI conference we are proposing a demonstration of a working prototype of the ACT app. This will be presented on several Samsung tablets, and we will also have an animation of the app on an Imac screen and a poster explaining the poster and research process.

References
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