

Beacon

Using ICT to Improve Mental Health Crisis Intervention

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MOTIVATION

Depression and anxiety disorders are very prevalent worldwide, and can be a tremendous burden on those who suffer from the illness as well as loved ones.

Depression and anxiety disorders are a global problem, affecting an estimated 8% of the world population in 2016 [1].

PROBLEM

Sometimes depressive and anxious mental health conditions can lead to mental health crises, where a person is no longer able to function normally and may be at risk of harming themselves or others.

There exist some ICT solutions for this, but they do not provide suggestions for coping based on wearable device data to avoid mental health crises.

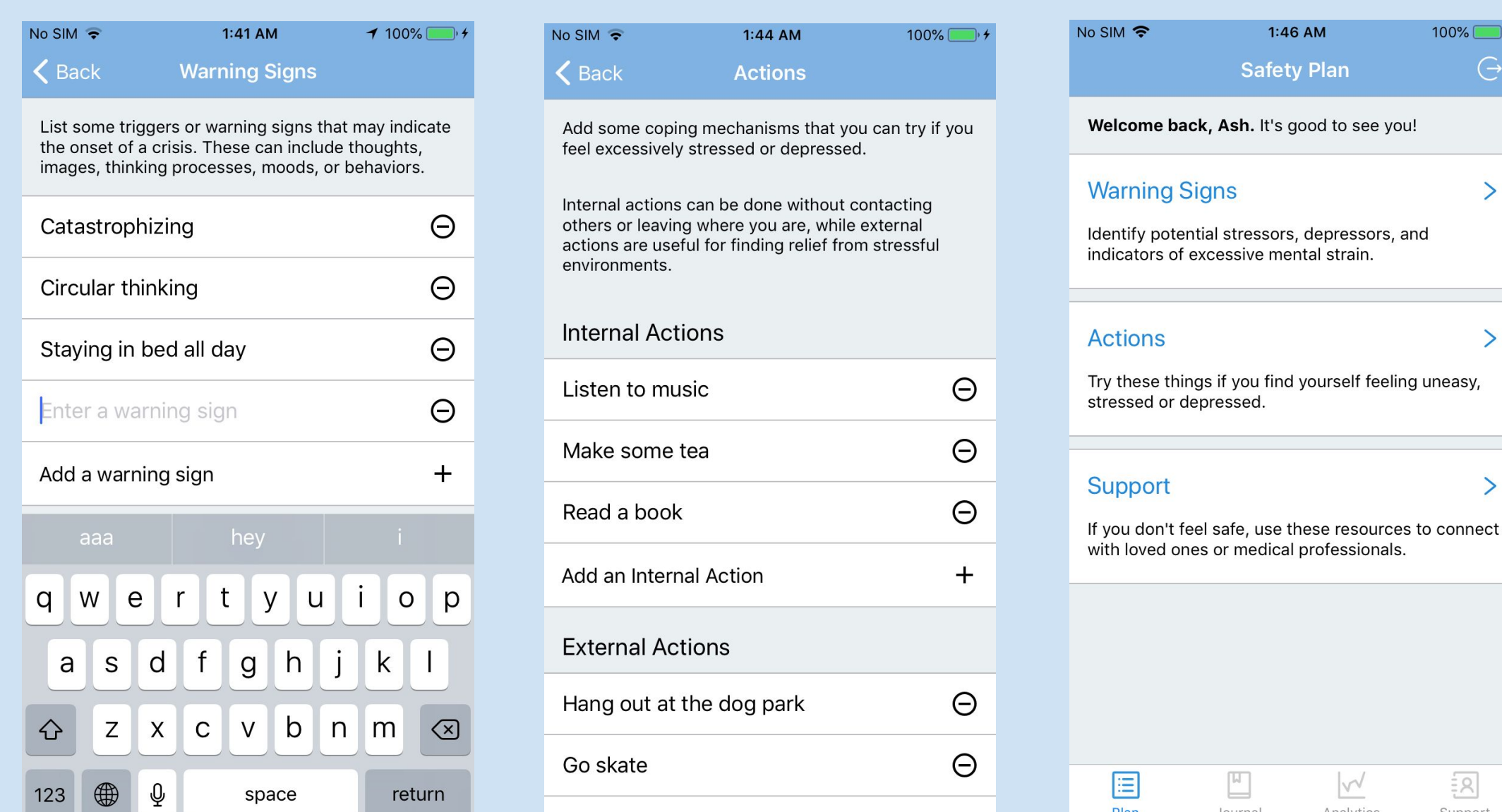
METHODOLOGY

We targeted the development of our solution to work towards achieving the Good Health and Well Being Sustainable Development Goal (SDG) adopted by world leaders at the United Nations Summit in 2015.

With this SDG in mind, we conducted a systematic literature review of studies related to our research topic, focusing on literature aiming to improve mental health and well-being using technology.

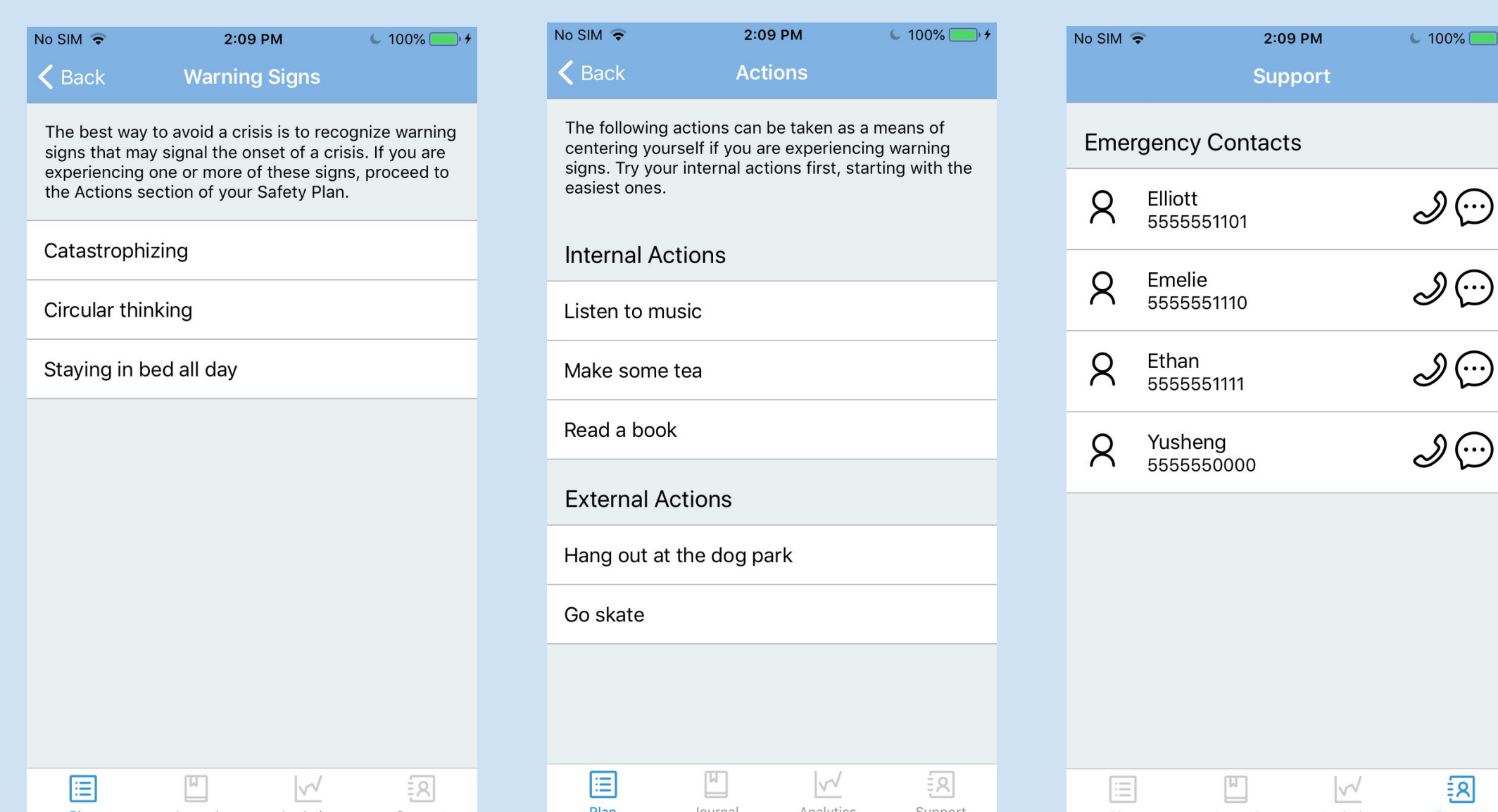
We conducted a system analysis of applications which are addressing mental health issues.

Lastly, we conducted interviews of primary and secondary users to learn more about what they thought would be a successful solution, as well as received feedback on our design.



Sign-up as a new user

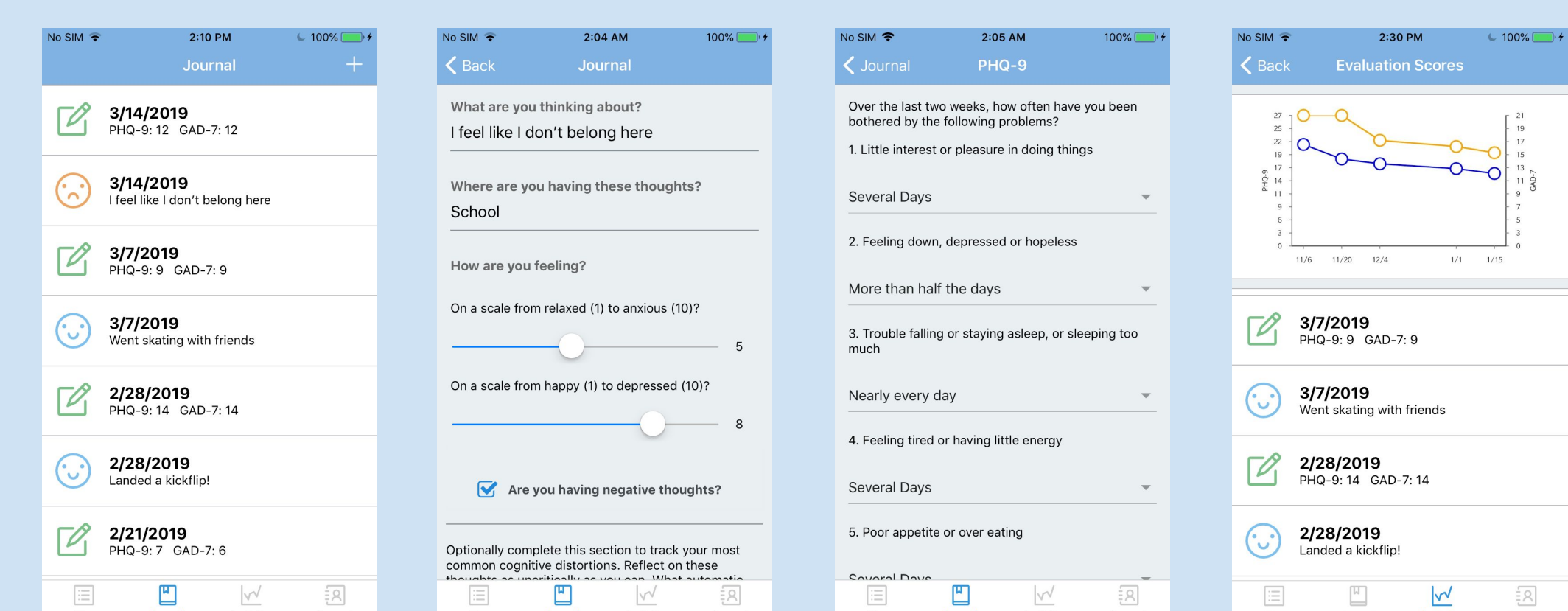
Safety Plan



Warning Signs

Actions

Expert Help



Journal View

New journal entry

PHQ-9 Survey Entry

Analytics of journal entries and survey responses

REFERENCES

- [1] Ritchie, Hannah, and Max Roser. "Mental Health." *Our World in Data*, 20 Jan. 2018, ourworldindata.org/mental-health.
- [2] Stanley, Barbara, and Gregory Brown. "Patient Safety Plan Template." *National Suicide Prevention Lifeline*, Substance Abuse and Mental Health Services Administration, suicidepreventionlifeline.org.
- [3] "Safety Plan Quick Guide." *Mental Health*, Veterans Affairs, 15 Aug. 2013, www.mentalhealth.va.gov.

FINDINGS

The systematic literature review design phase revealed resources already available for anxiety and depressive crises such as GAD-7 (for anxiety) and PHQ-9 (for depression), evaluations which provide scores to evaluate a user's mental state over time. The safety plan concept is also widely used by mental health professionals, and so we digitized this form [2, 3].

System analysis of multiple applications led us to incorporate reflection of what may lead a user to their current mental state.

We initially focused on anxiety-related crises; however, from our interviews we discovered the importance of also focusing on depressive crises, where the user needs help with motivation.

NEXT STEPS

Next steps are to incorporate wearable device data into the Journal and Analytics sections. These data would add biometric and location features to correlate users' journal and survey entries with their wearable device data, providing physiological insight into how they are doing.

This additional modality will also allow the app to provide interventions by suggesting Actions according to how users are feeling and where they are, creating a personalized app experience and more effective avoidance of a mental health crisis.

Following the integration of wearable device data, we would like to perform a user study to evaluate the efficacy of the application's design.