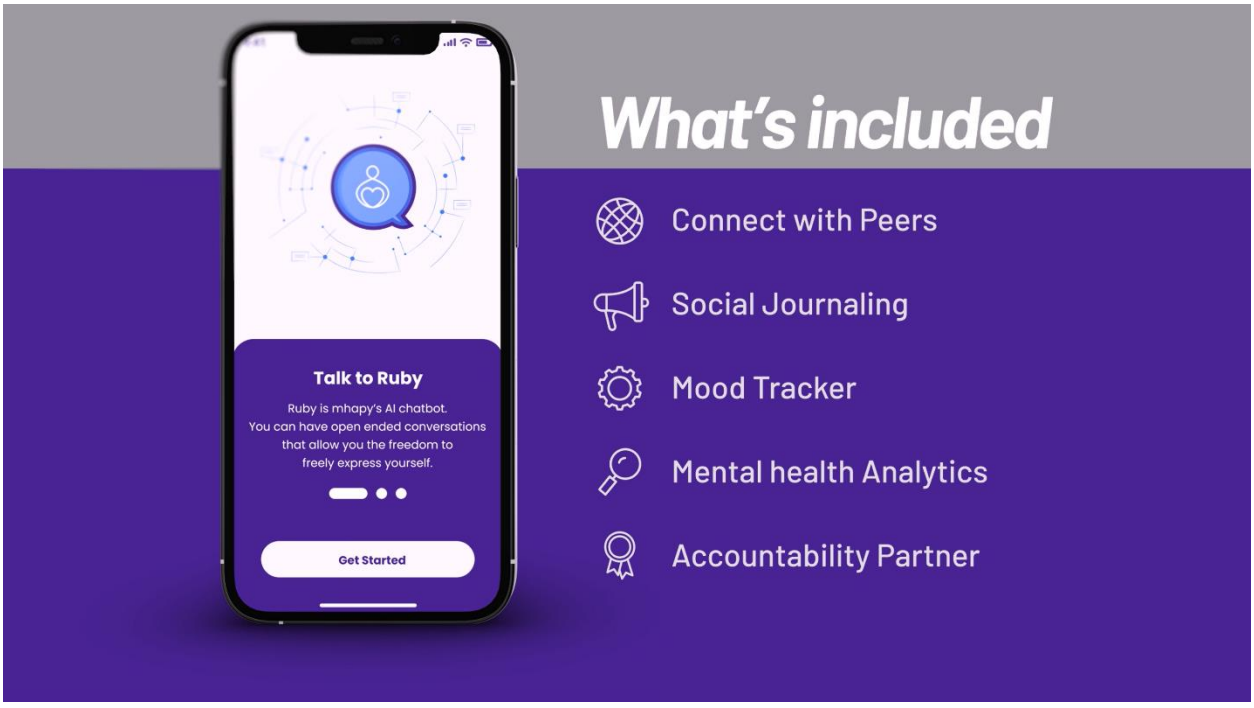

Final Report on mhapy

Description of the product

mhapy is a chatbot that tracks anxiety, depression, sleep and monitors the user's mental health. mhapy also connects the user with peers so that they can support each other.

The basic premise is to get people to move beyond mental health Awareness to what they can do about mental health issues. They can check in on their friends, neighbors and strangers with the goal of attaining mental wellbeing together.

Specifically, mhapy is an artificially intelligent chatbot which uses natural language processing to hold friendly conversations with the user while performing a mental status evaluation, the chatbot then matches users with similar mental health profiles who live closer to each other as accountability partners for peer support. Accountability partners are peers who have a commitment to check in on each other regularly.

The chatbot facilitates peer support by notifying accountability partners of any significant deviation in the mental health baseline, increased suicidal risk or long-term online absence of their peers. Mental healthcare providers can get certified accounts, which allow them to get more detailed analytics on their clients which otherwise would only be visible to the individual user.

What we have accomplished

We have continued to improve the chatbot. The web version can be tested at test.mhapy.com

We have also created the first test android mobile version (apk) of the chatbot. This can be downloaded and tested at https://drive.google.com/file/d/11UCRA8oxAlzs9KtcRjbat5fg1VD86xTe/view?usp=sharing. The apk file allows users to sign up, log in and input demographic information before connecting them with the chatbot. This allows us to cluster user input based on demographic information and identify high yield topics for equity seeking groups that need to be addressed by the chatbot in future iterations.

We started monthly tests with an average of 120 participants. This allows us to improve the small talk portion of the chatbot and integrate this into various parts of the conversation tree and collect user feedback to iterate. We have now completed four tests.

We have designed the user interface for the next iteration of the application which can be viewed here https://xd.adobe.com/view/0663d02a-4546-470d-978c-90a99545c7e3-5330/screen/ef9a7304-af2d-4654-8596-f0e88e2fcbbd/

We have implemented standard Natural Language Understanding (NLU) with google dialogflow giving the chatbot the ability to respond flexibly to user input including misspelled words and incomplete sentences.

Limitations:

Chat persistence: The chatbot resets anytime the user closes the app and does not continue conversations from previous interactions. This means the user must repeat themselves and have the whole conversation again. We intend to fix this in the next iteration.

The chatbot is unable to recognize emojis, smileys and other icons that modern people use in conversation

What we are currently working on:

We are still in the testing phase and hope to slowly implement advanced Natural Language Processing to give the chatbot even greater flexibility. This requires ramping up testing and increasing the number of testers to about a thousand.

We continue to build other features of the application including the dashboard, notification system, journal and accountability partner interface.

We are creating an Application Programing Interface (API) that will allow easy integration of the chatbot and other features on the website and applications of potential partners who will like to have a chatbot on their own platforms.

Research

We have had delays in submitting our REB Application for clinical validation. We are working with the clinical research coordinator to strengthen our application.

Human Resources

Vaibav Logar, a University of Toronto student studying management and International business has joined our team. He is responsible for leading testing in Canada and co-leading our roll out strategy for our soft launch on February 28, 2023.

Technical details

Technical details remain the same from last report. The source code for the mobile application was built with flutter(dart) to power the mobile interfaces. The user interface was designed with adobe and figma.

The features which include chatting with the mental health chatbot is built with dialogue flow and connected to the mhapy mobile application through an API webhook.

The entire mobile application is hosted on google cloud; and firebase is used for authentication logs, user sessions, etc. Mhapy chat conversations are also stored on google cloud services.

User's chats are not shared with other third parties, Google as a company only provides the storage space where the bot is hosted. The users' chats with the bot are encrypted end-to-end. i.e both at rest and in transit.

For more information visit www.mhapy.com or email info@mhapy.com