

# Treat Yourself: Addressing Medication Nonadherence among HIV-Positive Youth

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## Introduction

Youth between the ages of 15 and 29 make up 21% of the US population, but account for 39% of new HIV infections. Studies have placed youth medication adherence between 27 and 41% while 90% is needed for medication to be effective. In this project, we developed a personal monitoring system to address medication non-adherence through reminders, progress monitoring, and leveraging and expanding social support. Through an iterative, user-centered design process, we aimed to design an engaging smartphone app that is sensitive to the privacy required for a stigmatized condition such as HIV.

## Results

### Medication Reminder

Push notifications appear as customizable messages to motivate the user or as riddles that will only reveal the answer once the user has self reports that they have taken their medication.

### Adherence Progress Calendar

Medication adherence progress is displayed in a 10 day or a 30 day visual representation

### Support Button

User defined contact list encourages reaching out to their support network

### Customizable Avatar

Avatar's hair, eyes and clothes can be customized. Facial expressions and dancing provide immediate positive reinforcement

### Point System & Leaderboard

Users monitor and compare each others' progress, fostering friendly competition and social support

## Additional Features

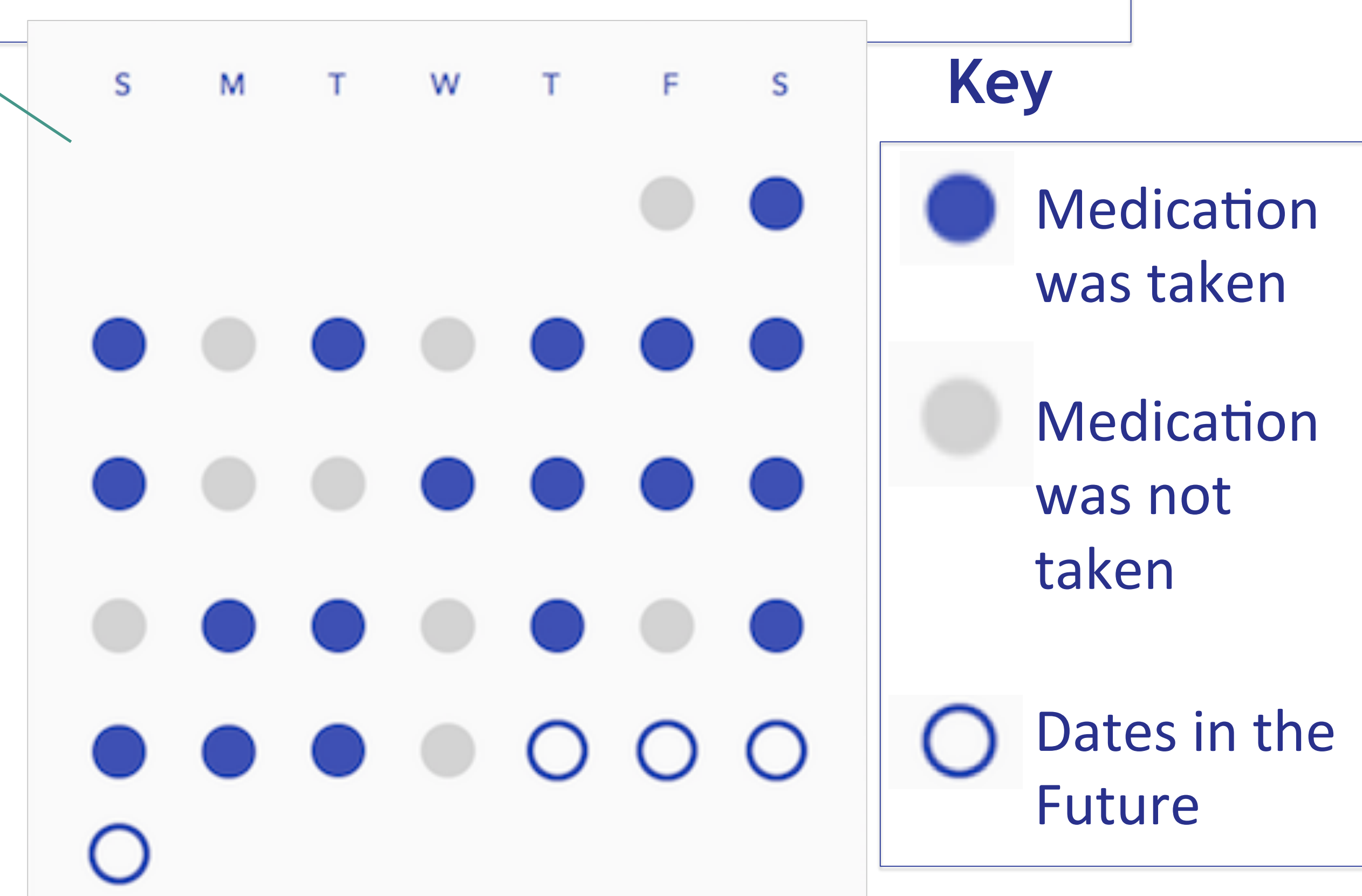
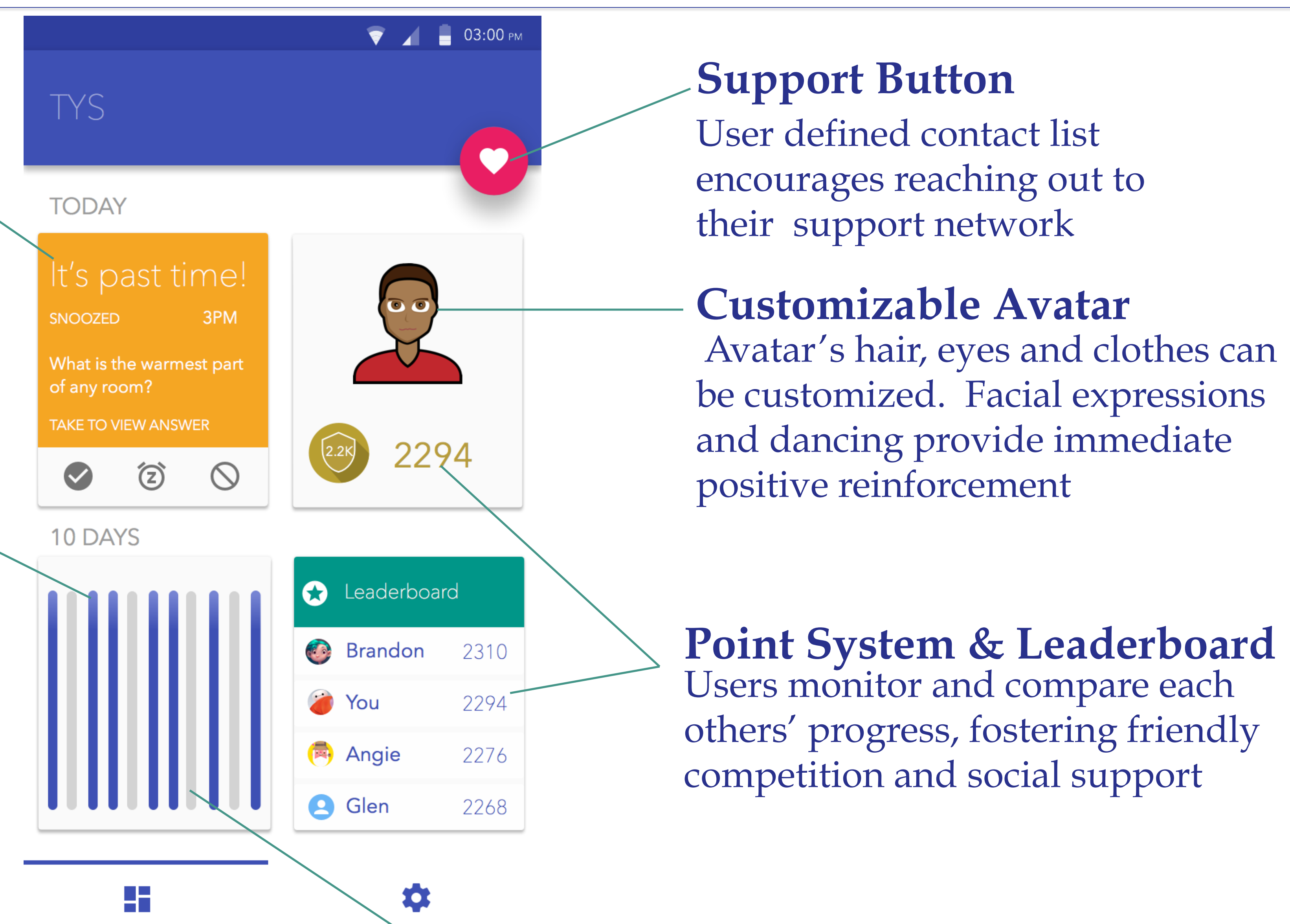
- Alerts remind users when medication refill date is approaching
- Resource lists that provide links to a variety of information about HIV
- Users can confirm taking their medication by taking a picture of it with their phone

## Methods

- Literature reviews on persuasive technology and persuasive personal monitoring systems
- Competitive analysis of medication adherence smartphone apps and their user reviews
- User-centered design process, including patient focus groups and participatory design with clinicians
- Agile development and rapid prototyping enabling quick exploration of new features and iterative design process

## Future Work

- The leaderboard allows users to support each other through a “kudos” function that commends users on their medication adherence status.
- A pilot study consisting of eight users will be held to get feedback on all the features.
- The app will be connected to a server and this will allow administrators to do further research and form hypotheses based on the existing features of the app. These hypotheses may entail the following:
  - If app usage increases then medication adherence will increase
  - If users customize and interact with their avatars more, their medication adherence will increase
  - If the support button is used, then the user's avatar will express a positive mood more frequently.



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