Sarvesh Tandon (standon3@wisc.edu)

Project ThinkOutLoud

Journaling App (or Digital Audio Diary)

“For those with somber voices and beautiful ideas”

About us:

We are a small team of 5-6 people (all students at the University of Wisconsin-Madison) inside the Coding4Good organization, a student group focusing on the intersection of computer technology and community service to create social change, expand the use of technology as a force for good, minimize the potential harms of technology, and support new generation of global leaders working at the intersection of technology and social impact.

1. Sarvesh Tandon (**Project Leader**)
2. Monica Schmidt (**Advisor** + President of Coding4Good)
3. Sai Krishna Chaparala
4. Chelsea Verheyen
5. Alex Boudos
6. Connor Phillips

We would be relying heavily on Google Cloud as our backend infrastructure primarily due to its scalability and security for user authentication and user data encryption during transit. Hence, we would like to request Google Cloud credits to fund our development activity.

Moreover, any technical assistance to review the app architecture with a Google Cloud expert would be very helpful and much appreciated.

Given below are the details of our project.

The Problem:

About 40% of people are uncomfortable when talking to people, we are called introverts. But people with the most somber voices are the ones with the most beautiful ideas and the loudest thoughts. This app is for those who want to but are not able to express themselves in front other people. The cause for this ranges from some degree of general shyness to mental diseases such dementia and ADHD. All our app tries to accomplish is give them an ear that listens to them and that is easy to talk to.

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The Solution: The system would be a combination of Journey, Relax Melodies and a basic audio recorder app. The main feature of the app is to record daily audio memos that allow for people to just unravel their day and experiences as a way of meditation. This is what'll make our app different from the countless journaling apps out there which are all text based.

Phases of the App:

1. During *the first phase* of the app we will implement a simple audio recording app with added features such as background noise while recording and daily recording calendar system to store and represent audio files in an organized manner.

2. *Peer to peer consultation:* People can anonymously post voice recordings about their lives and how they are dealing with anxiety or other disorders which other people who are dealing with similar issues could respond to via text or other voice recordings.

3. *Professional Consultation:* People using the app can opt in for free text based consultation based on their voice recordings provided by mental health professionals.

Priority Features for the First Phase:

I. UI/UX : **Flutter**

1. Pages
   a. User Login Page. For users to get access to their calendar and recordings
   b. Recording Page. Start recording and a waveform based amount of noise.
   c. Calendar . Which contains the recordings of the logged in user.
   d. Search Page. Page where users can search for the audio files.
2. Shareable Recordings:
   a. A shareable url for recordings

Technical Details:

● **Firebase Authentication** will be used to authenticate the user to grant access to the app and its features. The user id will be the password for the audio and metadata files.

● All audio files will be stored locally by default unless the user gives permission to upload them to the servers . By default, files will only be uploaded when a shareable url is needed to be created. Whether or not the user prefers to store the audio files locally or on a server will be an option in the setting. The audio files will be handled by **Firebase Storage** on the server side.

● We intend to use Google's **Speech-to-Text API** for generating transcripts and making the audio files contents searchable if and only if the user agrees to uploading their files onto a server.

- We will be using **Google Cloud Functions** and Firebase Cloud Messaging for implementing the features in phase 2 and 3 of the app such as group chats and various kinds of push notifications.

- We will also be using **Firestore** for handling user data and **Realtime Database** for handling the group chat function.

Helpful Reference Images for Phase 1: