

**MENTAL HEALTH APP**  
**An Engineering Project in Community Service**  
**Phase – II Report**  
*Submitted by*

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*in partial fulfillment of the requirements for the degree of  
Bachelor of Engineering and Technology*



**VIT Bhopal University  
Bhopal  
Madhya Pradesh**

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### Bonafide Certificate

Certified that this project report titled "**Mental Health App**" is the bonafide work of "**Amman Agrawal** (19BCG10057), **Aryan** (19BCE10126), **Shruti Jha** (19MIM10034), **Prateek Verma** (19BCE10358), **Akshat Sharma** (19BCE10147), **Aniket Bandyopadhyay** (19MIM100115), **Arya Dubey** (19MIM10029), **Siddharth Raj** (19BCY10099)" who carried out the project work under my supervision.

This project report (Phase II) is submitted for the Project Viva-Voce examination held on 21 April 2022.

A handwritten signature in blue ink, appearing to read "M".

**Supervisor**

**Comments & Signature (Reviewer 1)**

**Comments & Signature (Reviewer 2)**

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# **1. INTRODUCTION**

## **1.1 Motivation**

Our motivation behind this project was to provide a platform for many affected by concerns related to mental illness and other safety features which have been more demanding in recent times due to the covid-19 pandemic. The app will provide a new platform for many who are unable to access such services as well as the resources which are provided should be useful.

Our main objective was accessibility and resourcefulness in the making and motive behind our work in this sector. Our work highlights these traits and implements the features which are critical to those affected by mental illness regardless of their location. Another one of the motives was the issue be addressed no matter how minor or major its effect on the masses or individual.

## **1.2 Objective**

People all around the world suffer from depression, behavioral disorders, and mental illnesses. Many can't afford traditional therapy, worry about the stigma of in-office treatment, or don't have access to treatment for various reasons.

On the other hand, many mentally healthy people want to find an internal balance and live more fulfilling lives but aren't interested in traditional therapy.

The coronavirus pandemic has revealed deep cracks in the healthcare system of entire world. People across all demographics in the world are feeling isolated, lonely, and anxious.

A spike of downloads of mental health apps has been observed since the beginning of the coronavirus pandemic. Mental Health (mHealth) apps can be an alternative to traditional therapy as they're lighter on the wallet, available to all smartphone users, and ensure privacy.

Among adults aged 18 or older in the U.S., the prevalence of mental illnesses has increased from 17.7% (39.8mil Americans) in 2008 to 20.6% (51.5mil) in 2019. Of this population, 26.0% (13.3mil) perceived having an unmet need for mental health services. The most common reason for unmet needs is affordability, with other barriers including mental health stigma, and provider shortages or wait time.

Currently there are various popular mental health apps like Talkspace, Calm, BetterHelp but these apps have problems such as some of them are not appropriate for people in certain age group, or those apps don't have the required features.

The Objective behind our app is to give a readily available mental health solution to everyone who uses a smartphone. As the need for such an app has increased after this pandemic. This app has some features which we have focused on that makes it better than currently available apps like: -

Habit Tracker

Mood Tracker

Self-Assessment Quizzes

Breathing Exercises

## **2. LITERATURE REVIEW**

### **Existing Work with Limitations**

The current system of maintenance of most of the mental health tracker is manual. This system is difficult to handle due to following drawbacks:

1. Effectiveness: The biggest concern with technological interventions is obtaining scientific evidence that they work and that they work as well as traditional methods.
2. For whom and for what: Another concern is understanding if apps work for all people and for all mental health conditions.
3. Privacy: Apps deal with very sensitive personal information so app makers need to be able to guarantee privacy for app users.
4. Guidance: There are no industry-wide standards to help consumers know if an app or other mobile technology is proven effective.
5. Regulation: The question of who will or should regulate mental health technology and the data it generates needs to be answered.
6. Overselling: There is some concern that if an app or program promises more than it delivers, consumers may turn away from other, more effective therapies.

### **Problem Solution**

The main purpose is to help each individual be better able to cope with their mental health in various forms which they are otherwise unable to do so without outside help

The entire activity is to help them through with proper guidance at each level determined by the app. These could include:

Therapy needed to understand the individual.

Symptom tracking to better understand the problem.

Suggestions to better tackle the scenario at hand.

Adaptable based on your goals.

Ability to track daily progress.

Visual Insights with actionable exercises.

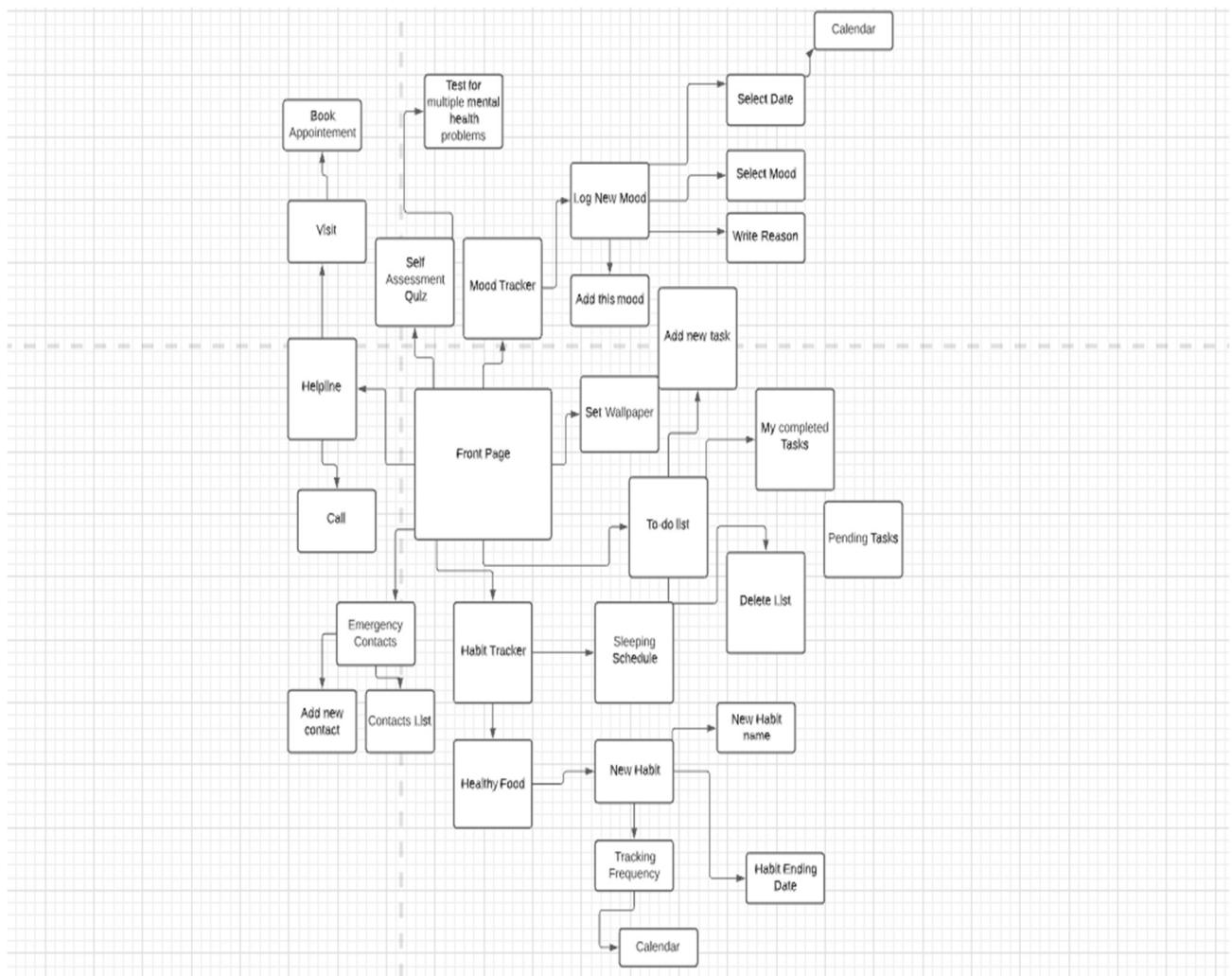
Daily Reminder to keep you on track.

Customizable based on your needs and goals.

“Shape Matching and Object Recognition Using Shape Contexts”, proposed shape detection method using a feature called shape context. Shape context describes all boundary points of a shape with respect to any single boundary point. Shape recognition can be achieved by matching this feature with a prior knowledge of the shape context of the boundary points of the object.

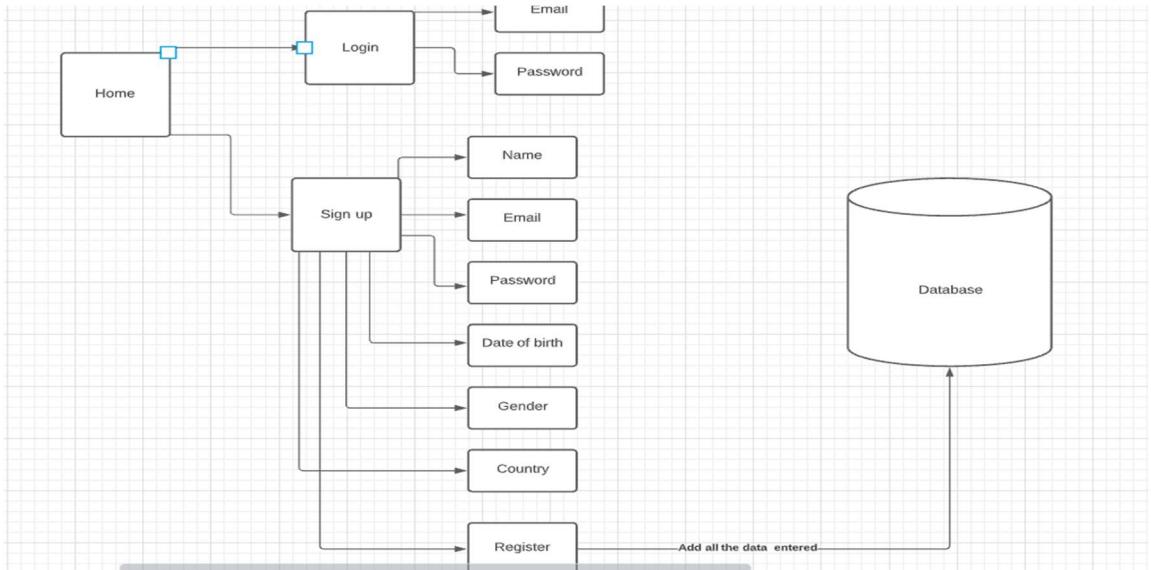
### 3. TOPIC OF WORK

#### a) System Architecture Diagram

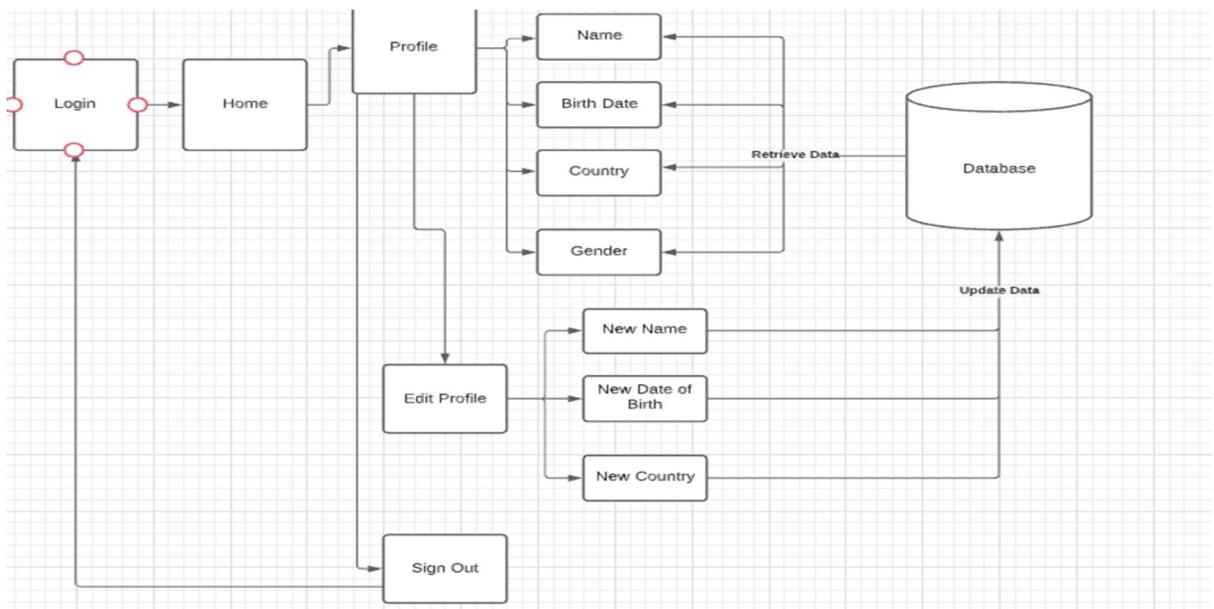


#### b) Working Principle

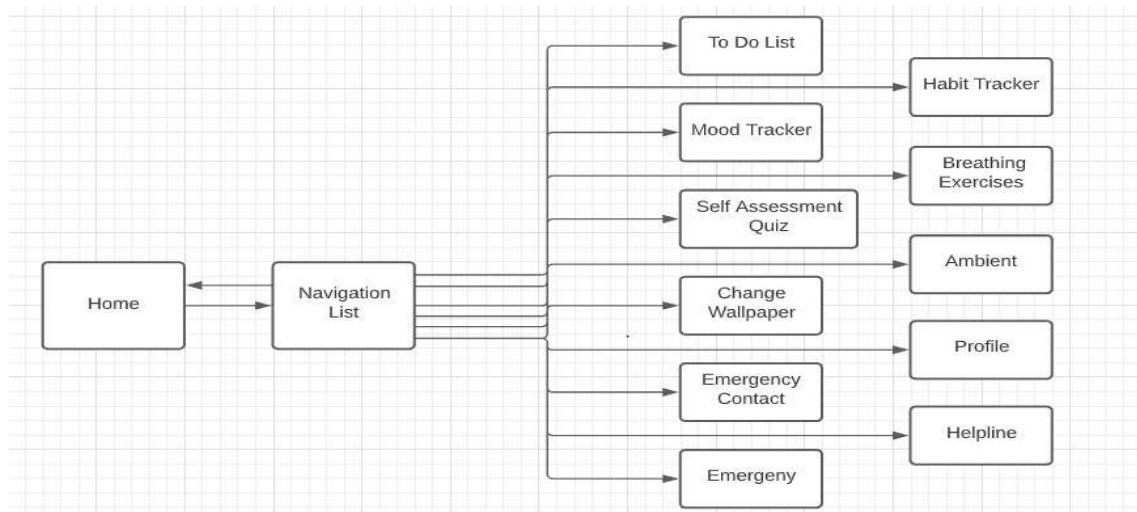
- On your first visit of Mentally, you are required to create a user account by registering. You can register and create an account by clicking the “Don't have an account? Sign up here” link. If you are a returning user, you can simply log in to the app by entering your email and password.



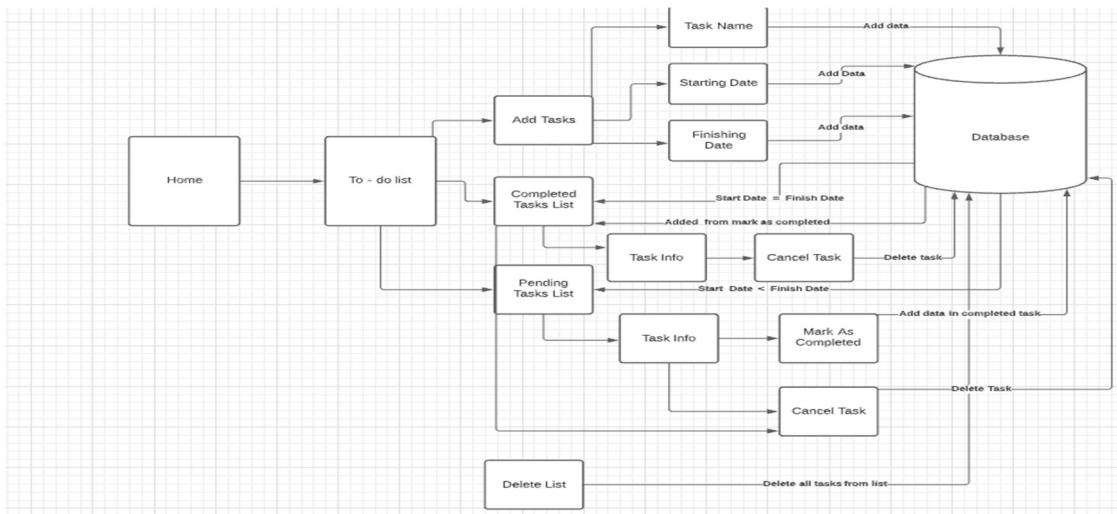
- After entering your information such as your name and email, you will then be directed to the profile page of the app. This is where you can view your information, and also make edits. You are also able to sign out of the app from the profile page by clicking the sign out button.



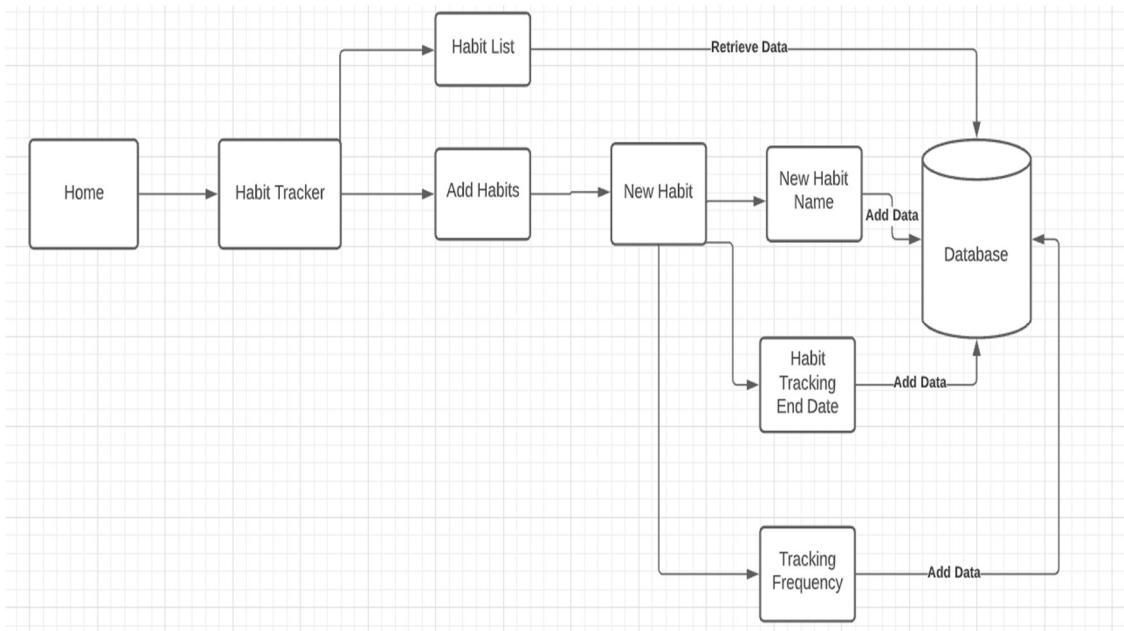
3. You are able to navigate through the various modules/features of the app by clicking the three bars icon on the top left of the screen. By clicking this, the navigation menu pops up, allowing you to navigate to the feature you like.
4. On the Home screen of MentAlly, a daily motivational quote is shown in order to stimulate and encourage the user. If you wish to change the wallpaper displayed on the home screen, you can do so from the Change Wallpaper module. MentAlly provides various aesthetically pleasing wallpapers to comfort you and complement your style.



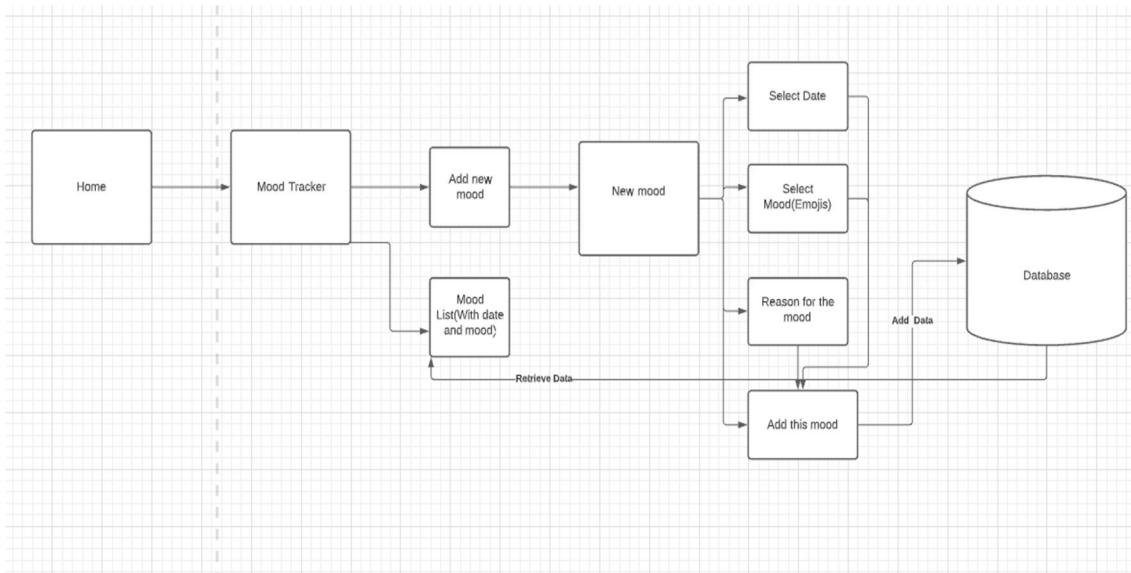
5. There is a To-do feature in MentAlly which makes organizing tasks easier than before! You can add new tasks to your list and specify the starting date and the ending date if you wish. You are also able to mark tasks as completed so that you can be proud of the amount of work you finished.



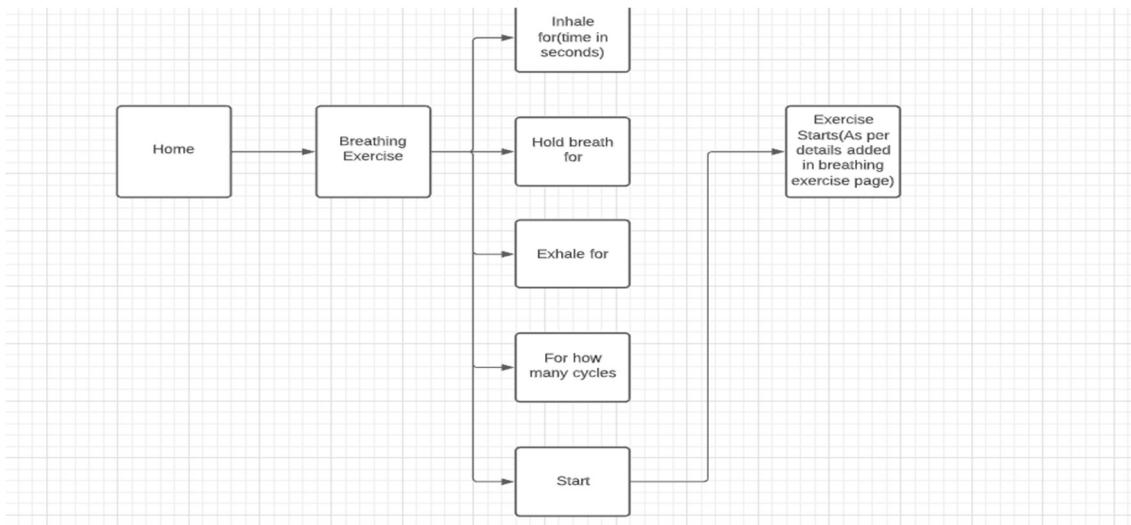
- The Habit Tracker is a great addition to the app where users are able to track their habits, and keep a record of how often they have been doing that habit. This helps to motivate users and keep them going! Users can also specify the ending date of a particular habit and the tracking frequency (Weekly, monthly etc)



- Something our users find useful is the Mood Tracker. This easy-to-use feature helps users keep a log of their past moods, which helps track progress or point out when the user requires assistance.

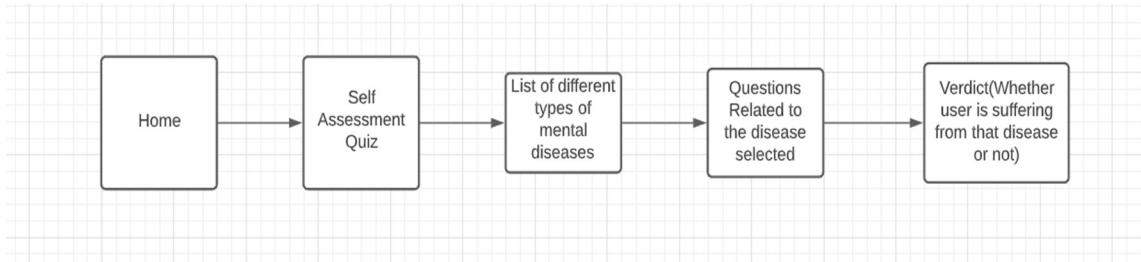


8. A unique feature for Mentally is the Breath module. This module is a special one since it helps the user meditate and relax. The user can specify the breathing pattern they wish to follow, and the module will animate that particular exercise for the user. Along with the Breath module, there is an Ambient Noises feature which plays soothing meditation music, further allowing the user to relax and rejuvenate.

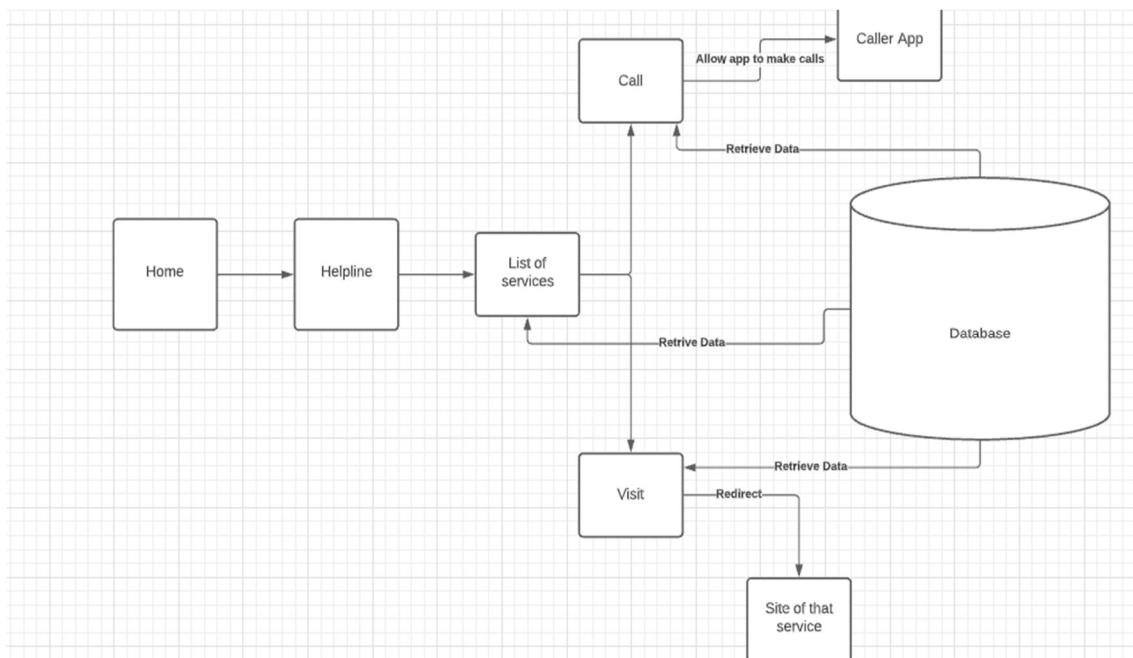


9. Mentally understands that Mental health issues are serious, so it provides a series of questionnaires for various mental health conditions in the Self-

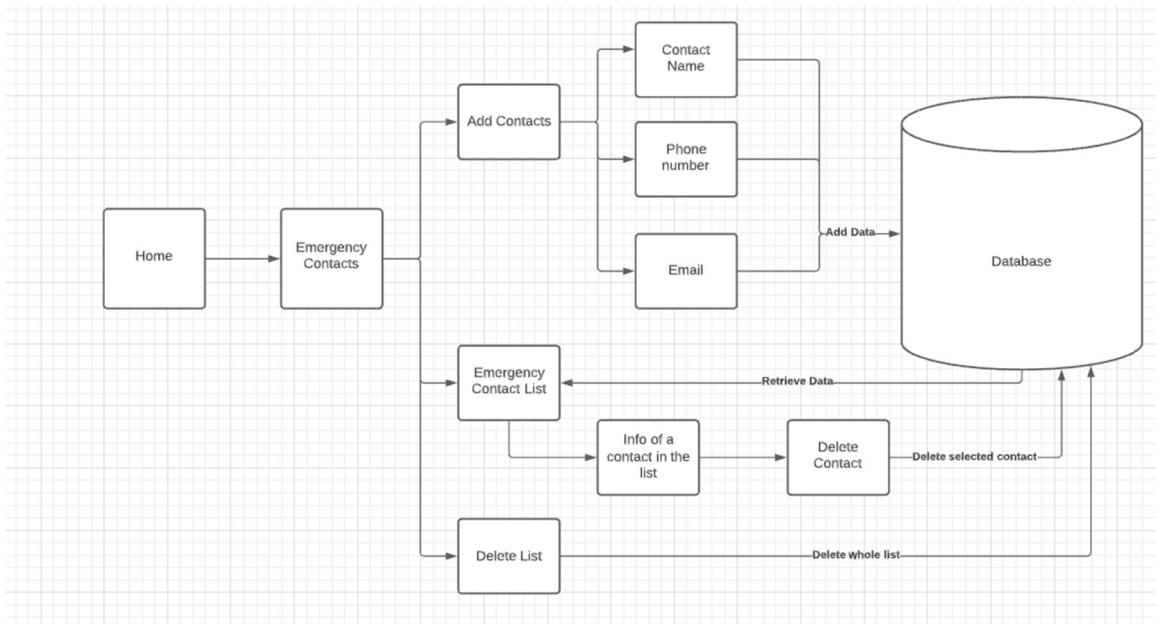
Assess module. This is very useful since the user is able to get an idea of their well-being by simply answering a few questions.



10. In the case that the user is in a state of stress and/or panic, there are several quick-to-access helplines given to the user. The user has an option to visit their website or call a particular helpline for a more private conversation.



11. We understand that in times of stress, family helps us out the most. That is why Mentally has provided an emergency contacts module where users can enter family members' contacts and contact them in an emergency.

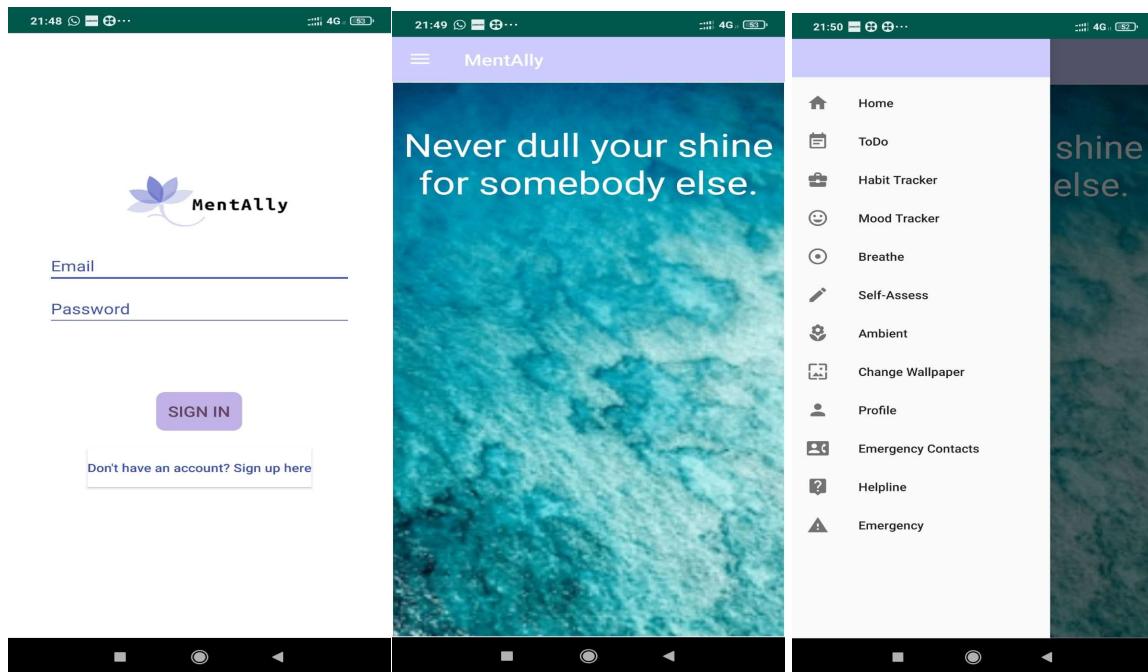


12. Last but not least, mentally has a Call Emergency Services feature where the user is able to call 911 if something has gone wrong, or they are in need of help urgently.

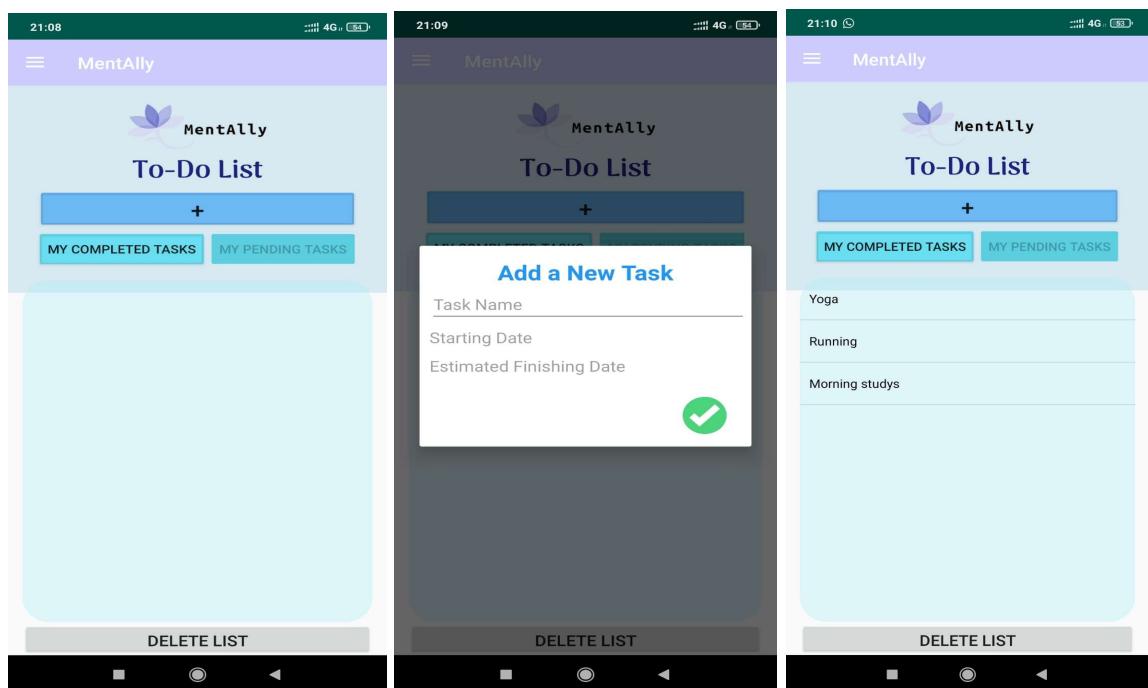
### c) Expected Results

1. This app will be providing a new platform for many affected by concerns related to mental illness and other safety features which have been more demanding in recent times due to the covid-19 pandemic as well as the resources which are provided should be useful.
2. Everyone has seen physical health tracking apps but there is a little discussion of mental health so our app will be providing a platform for tracking mental health and will give suggestion accordingly.
3. In this app we will be able to keep record of mental status of an individual. Things such as the food eaten, sleeping schedule, what we read in entire day and etc.
4. This app will have features like Mood Tracker, breathing exercises suggestions (for relaxing mind), a quiz to access mental health, and helpline numbers in case of emergencies.

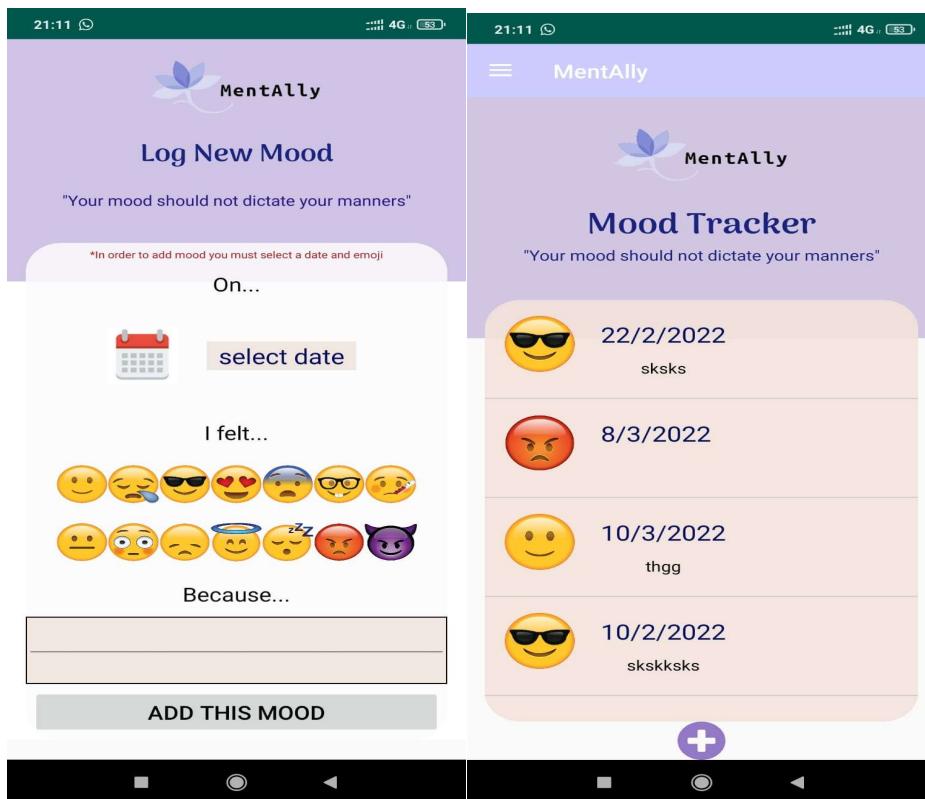
## Login, Home and Navigation Page: -



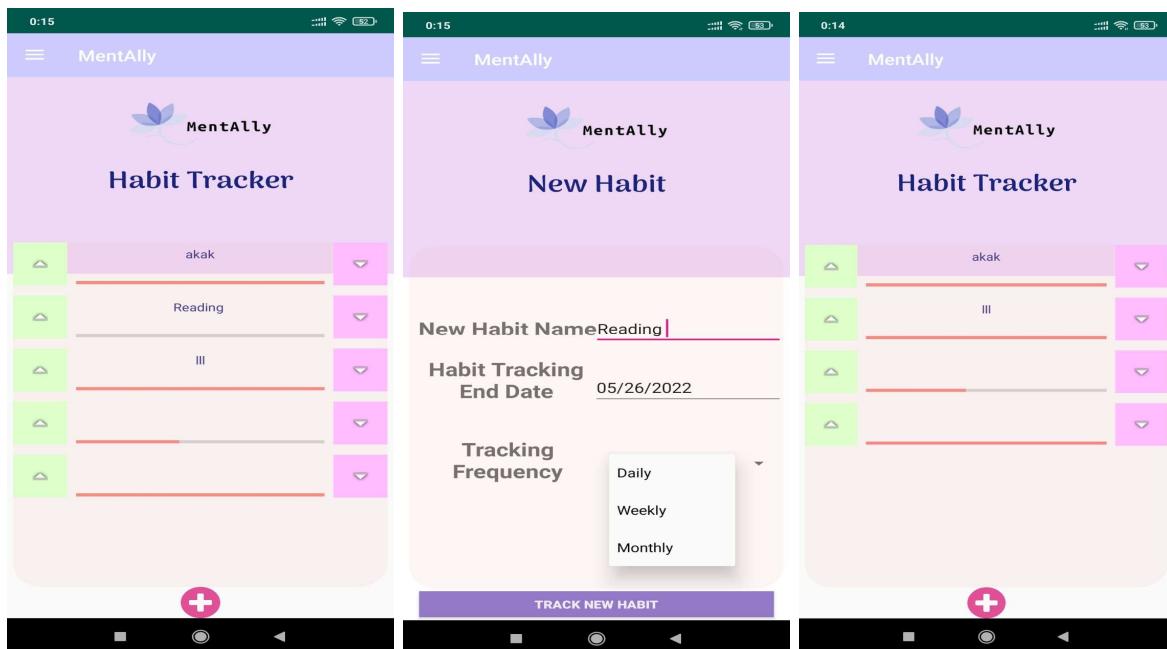
## To-Do List: -



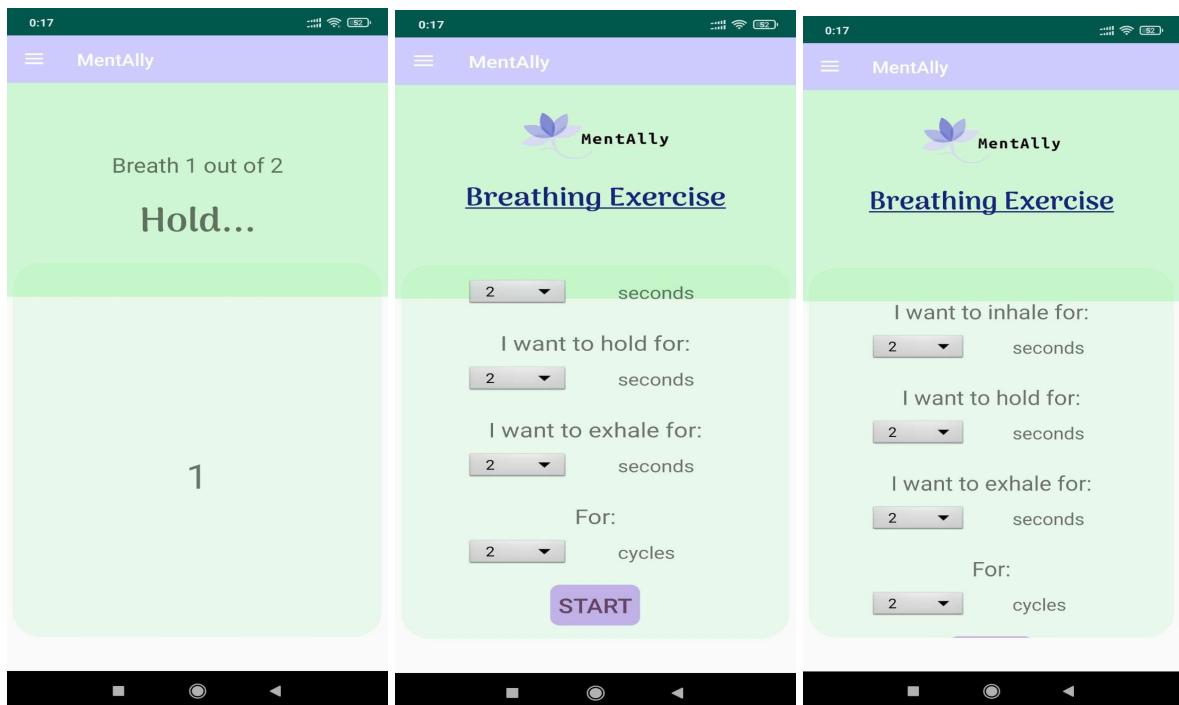
## Mood Tracker: -



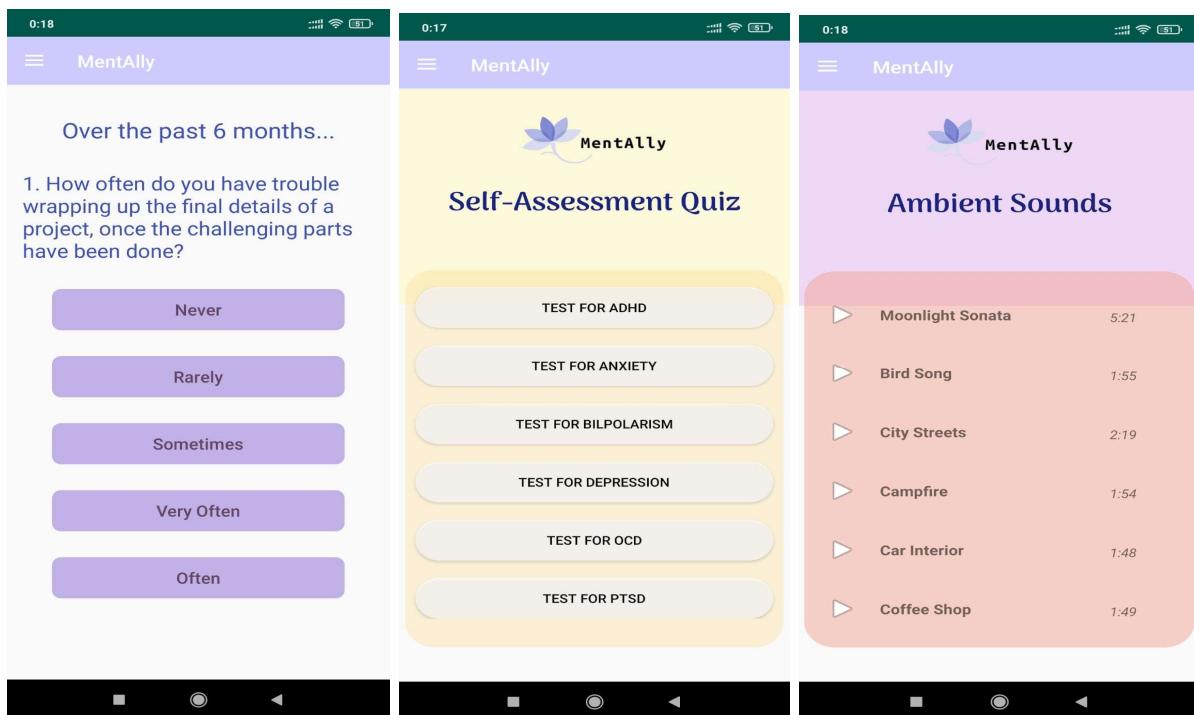
### Habit Tracker: -



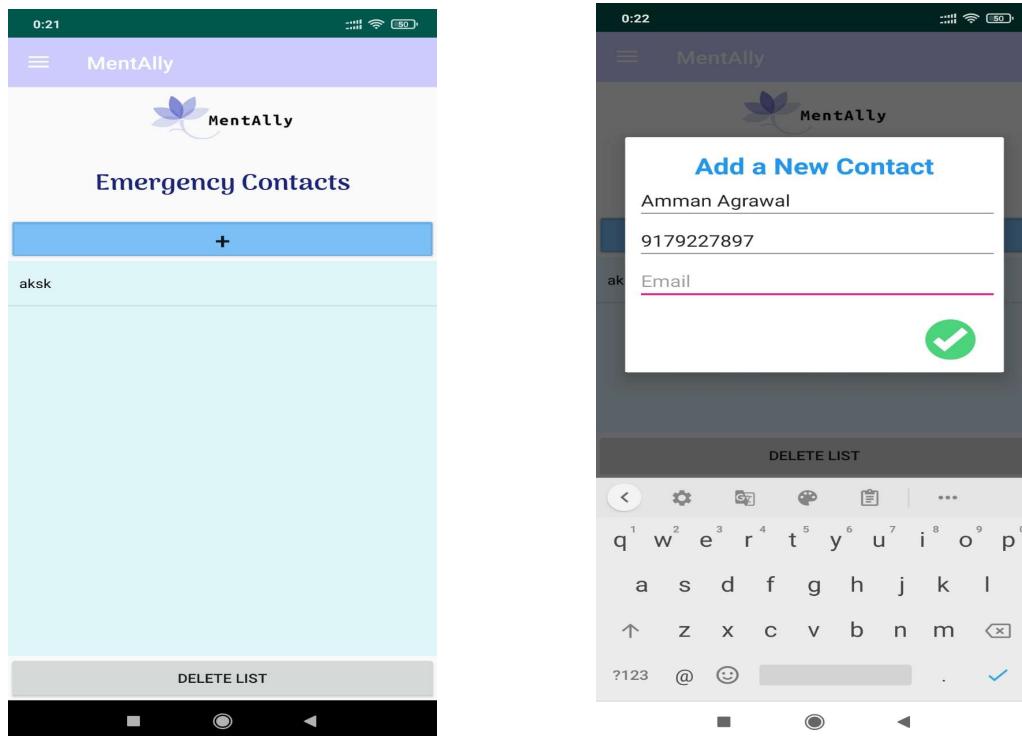
### Breathing Exercise: -



## Self Assessment Quiz: -



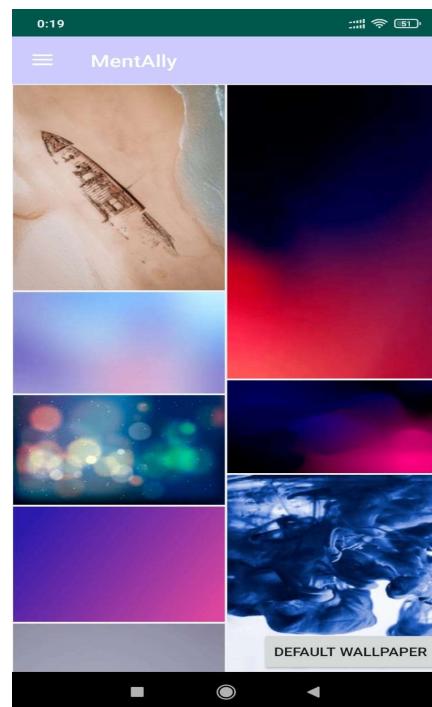
## Emergency Contact: -



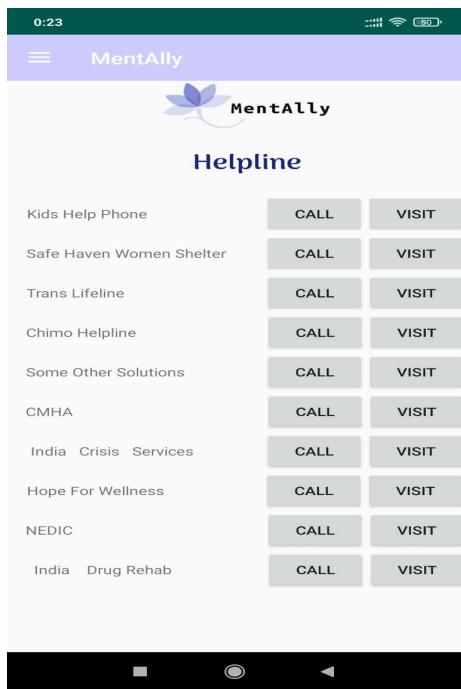
## Profile: -



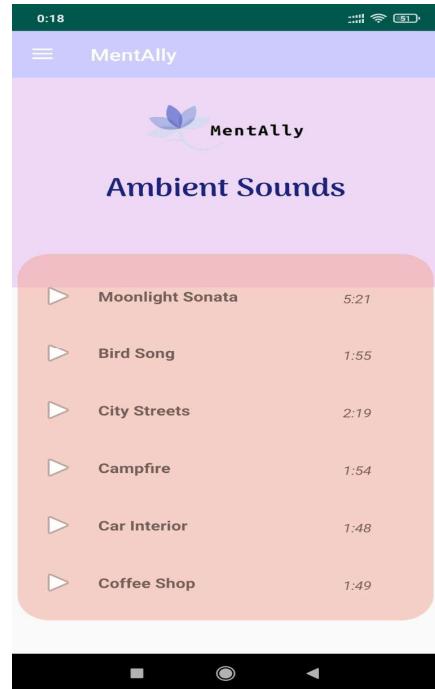
## Change Wallpaper: -



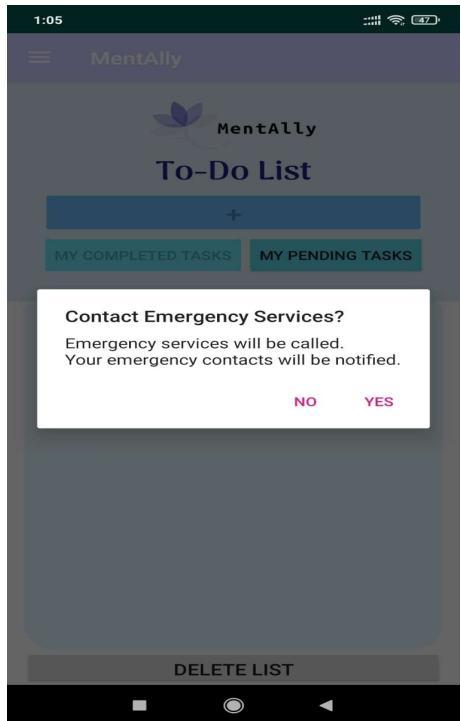
## Helpline: -



## Ambient Sound: -



## Emergency Services: -



## **d) Individual Contribution**

<b>Modules</b>	<b>Team Members</b>
Registration and Login	Shruti, Arya
Navigation list and Home	Siddharth
To-Do List	Aryan, Shruti, Akshat

Habit Tracker	Amman, Akshat
Mood Tracker	Aniket, Prateek
Breathing Exercises	Prateek
Self-Assessment Quiz	Aniket, Aryan
Emergency Contacts and Helpline	Arya, Siddharth
Emergency Service	Amman

## **Registration and Login Page (Made by: - Shruti, Arya)**

We have created a Registration Page for new users, they are required to fill out the registration process by filling out details like, name, date of birth, country, gender, email and password.

These details are then saved to the database and a new user account is formed.

The Second page we created was Login for returning users, they can simply log in to their id's by entering email and password.

## **Navigation List and Home (Made by: - Siddharth)**

I have made the navigation list for our app by which user can access all other features of the app like Home, To-Do list, Habit Tracker, Mood Tracker, Breathing Exercises and etc.

I have made the Home screen of MentAlly, a daily motivational quote is shown in order to stimulate and encourage the user. If you wish to change the wallpaper displayed on the home screen, you can do so from the Change Wallpaper module. MentAlly provides various aesthetically pleasing wallpapers to comfort you and complement your style.

## **To-Do List (Made by: - Akshat, Shruti, Aryan)**

We have worked on four features for making the To-Do list Page and those are

(i)Add Tasks: To add a task to his/her list, the user has to name it and mention its starting and ending date.

Based on the data from the database, the to-do list feature divides the tasks into two lists, completed task list and pending task list.

(ii)Completed Task List: If the finish date is the same as the start date in the database, the task is marked as completed and is added to the list.

User also has the option to cancel the task, by which the task gets deleted from the database and from the completed task list.

(iii) Pending Task List: If the finished date exceeds the start date, then, the task will be added to this list.

(iv) Delete List: Another option which is present at the bottom side is the “Delete List” option, we can delete all the lists present in the bar just by selecting this option.

### **Habit Tracker (Made by: - Akshat, Amman)**

We have created worked on the habit tracker page in which we created the following modules: -

(i) Add Habits: By this feature user can add new habits to the habit list. For this he/she has to name it, mention its ending date and its frequency (weekly, monthly). This data will be added to the database.

(ii) Habit List: This list will display all the habits added by the user in the app, it will read data from the database.

### **Mood Tracker (Made by: -Prateek, Aniket)**

We have worked on the Mood tracker feature of our app in which we created the following modules: -

(i) Add new mood - In this user will get the option of adding their mood on a particular date.

For adding mood, the user will select a date, then select mood (by emojis) and reason(optional). After this when the user clicks the add mood button that mood will be added to the database.

(ii) Mood List - This list displays the mood of the user on different dates which is stored in the database.

## **4. CONCLUSION**

1. The results of the app on the given database were able to identify individuals with mental illness based on the information tracked by them. Habit Tracker as a feature can track the habits and keep count of them based on weekly, monthly, etc.
2. Another feature was the Mood Tracker which was able to identify if the moods were just a routine swing or was a genuine decline which could lead to a bigger problem in the future.
3. Suggestions of the App are based on this data and interconnected with the features of the App. Breathing exercises is one of the features which will help calm the user.
4. The in-app questionnaire will help the user to self-evaluate themselves and give them much better insight and reassurance of their well-being by simply taking just a few minutes.

## **5.REFERENCE**

1. <https://www.tutorialspoint.com/index.html>
2. <https://www.geeksforgeeks.org>
3. <https://github.com/>
4. <https://stackoverflow.com/>