

# MindBloom - Healing Mental Health using Technology

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**Abstract**—The relationship between mental health and technology has drawn more attention in recent years. As digital technologies have proliferated, there has been an increase in interest in how these tools might be used to enhance mental health and wellbeing. This abstract offers a summary of the current body of knowledge on the subject, examining both the possible advantages and disadvantages of employing technology to promote mental health. . One the one hand, technology offers the ability to greatly increase access to mental health services, especially for those who might encounter difficulties receiving traditional forms of care. Digital interventions have the potential to improve mental health outcomes and lessen stigma associated with mental illness. Examples include smartphone apps, virtual reality programs, and online counselling platforms. Technology can also be used to gather and evaluate data on patterns and trends in mental health, which can help public health policy and enhance the provision of mental health services. The use of technology in mental health does, however, have certain potential hazards. Other factors to take into account include challenges with data security, misinterpretation of data, and privacy concerns. Technology use can also exacerbate pre-existing mental health conditions including addiction and obsessive behaviors and lead to new types of social isolation. Conclusion: Despite the fact that technology has a huge potential to improve mental health outcomes, it is crucial to use it responsibly and mindfully. To completely comprehend how technology affects mental health and to create best practices for incorporating technology into mental health care, more research is required

**Keywords:** *Mental health, Mood Disorder, Mental Disorder, Loneliness, positive psychology, therapy, music, fight with depression, anxiety, stress and different moods.*



Fig 1-TYPES OF MENTAL HEALTH

## I. INTRODUCTION

In recent times where the whole world was hit by the corona virus which caused the whole world to stop and be in their houses, is also a major reason why there is a sudden increase of people mental health becoming a big issue. Though social distancing was important to slow down the spread of virus. But we should not forget the aspect where many of the people had no one to communicate with or where just left all alone in the house which caused depression. One of the major drawback was where people's physical activity was stopped which gradually affected their mental health in some way or the other and for the ones who were already in pre-existing mental issues had even more difficult times to recover. this app is designed to help people improve their mental health and well-being A person's psychological, emotional, and social well-being are referred to as their mental health. It has an effect on how they feel, think, and act. Being in a good cognitive and behavioral condition is the definition of mental health. The absence of mental illness is also referred to as "mental health." Mental health issues is the problem that has an

effects on people's thinking, their ability to react on something. Mood behavior and a making them impatient at small issues. These apps offer various tools and resources to help users manage stress, anxiety, depression, and other mental health concerns. Meditation apps focus on promoting relaxation and inner peace through various meditation techniques, including mindfulness, visualization, and mantra meditation. These apps offer a range of meditations tailored to different needs, such as improving focus, reducing anxiety, and promoting better sleep. Mental therapy apps, on the other hand, offer evidence-based techniques and strategies to help users manage their mental health concerns. These apps provide a range of resources, including self-assessment tools, CBT exercises, and guided journaling to help users identify and manage their thoughts and emotions. Overall, mental and meditation applications offer accessible, convenient, and cost-effective resources for people looking to improve their mental health and well-being. With the help of these apps, users can learn effective techniques to manage their mental health and build a stronger, more resilient mindset.

## II. OVERVIEW

### TYPES OF MENTAL ILLNESS-

Mental illness includes a variety of conditions which affects a person's mood, behavior, and thought patterns. Some of the most common types of mental illness are: Mental illness can greatly affect a person's quality of life, and it is important to seek professional help if symptoms persist or interfere with daily activities

- **Mood disorders:** Mood disorders are further described as depression or bipolar disorder.
- **Depression:** Depression is among the most widely recognized of all emotional wellness conditions. While we as a whole get miserable, feel low or ailing in energy on occasion, individuals with despondency experience these sentiments all the more strongly and for longer.
- **Bipolar disorder:** Chronic (long-term) bipolar disorder causes severe mood swings that interfere with daily life, ranging from extreme highs to extreme lows
- **Anxiety disorders:** Everybody occasionally experiences anxiety. Worrying about everyday things, like getting to work on time or studying for a test, can be motivating. However, for some people, their feelings of anxiety persist and become excessive in comparison to the circumstances.
- **Personality disorders:** Such and disorder refers to a long pattern of thinking, behaviour and emotions that does not function normally and is inflexible which causes distress and makes it difficult to function in everyday life.
- **Trauma-related disorders:** Post-traumatic stress disorder (PTSD) is a treatable anxiety disorder. This happens when fear, anxiety and memories of a traumatic event stays as a memory with them

### III. STRESS, DEPRESSION ,LONELINESS

**Stress:** It is a state in which one worries or takes mental tension from a difficult situation or an event. Stress is a completely natural response from a human mind to address challenges and threats in one's life.

Stress makes it difficult for us to unwind and can accompany a scope of feelings, including nervousness and peevishness. When focused, we might find it challenging to think. We might encounter migraines or other body torments, an irritated stomach or inconvenience dozing. We might find we lose our craving or eat more than expected. Constant pressure can deteriorate previous medical conditions and may build our utilization of liquor, tobacco and different substances. Stress can appear as dread, stress, powerlessness to unwind, expanded pulse, trouble in breathing, aggravation in dozing designs, change in eating designs, trouble in concentrating, deteriorating of previous medical issue (physical and mental) and expanded utilization of liquor, tobacco and different medications.

- **Depression:** Depression (major depression) is a common and serious condition that negatively affects how you feel, think, and behave. Luckily it is also treatable. Depression can make you feel sad or lose interest in activities you once enjoyed. It can cause a variety of emotional and physical problems that affect your ability to work and at home. This can cause a variety of emotional and physical problems that affect your ability to work and at home.

Depression is usually accompanied by self-loathing or a loss of self-esteem.

People experience depression in various ways. This can interfere with your daily work, causing wasted time and reduced productivity. It can also affect relationships and certain chronic diseases. If you experience any of the following signs and symptoms of depression almost Every day for at least 2 weeks, you may be depressed: feeling hopeless, worthless, or pessimistic, Randomly crying a lot, feeling anxious, anger or rage, or exaggeration, changes in appetite or weight, unexplained chronic physical pain that does not improve with treatment (headaches, aches, indigestion, seizures) thoughts of death, suicide, self-harm, or suicide attempt.

- **Loneliness:** It is a human emotion/state of mind that is complex and unique for every person it is subjective feeling we get when we lack companionship or being socially isolated. People who struggle to make friends or feel unable to express themselves, their feelings or their issues often feel lonely and crave for human. Interactions but their mind's state makes it harder to connect with people. Us as humans do need another human being to connect with, to talk with someone who understands it can make people feel isolated and disconnected from others. It can be caused by life changes, mental health conditions, poor self-esteem, and personality traits. Loneliness can also have serious health consequences including decreased mental wellness and physical problems, mainly it can cause depression, increase anxiety, sleep problems

IV. STATISTICS

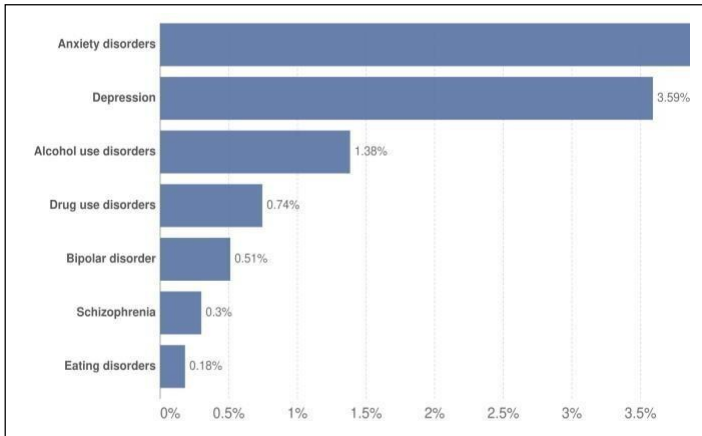


Figure2. Total number of deaths caused due to various reasons in the year 2019.

This is a basic data shown in a graph which explains the number of deaths caused in the year 2019. We can notice that the majority percentage of deaths are caused due to mental illness.

The graph itself speaks how mental illness can cause deaths, and we can also observe the types of mental disorders which caused the

A country having the largest population even there the people can suffer from loneliness, depression, and stress. A large number of population also brings in a bigger competition to cope up with, and while doing so, people go through stress and depression. It is difficult to accurately estimate the number of deaths caused by mental illness worldwide, as mental illness can be a contributing factor to a variety of physical health conditions and behaviors that may ultimately lead to premature death. However, according to the World Health Organization (WHO), suicide is the second leading cause of death among young people aged 15-29 years worldwide, and mental illness is a major risk factor for suicide.

V. PLATFORM & TECHNOLOGY USED

The platform we are using is "Flutter" and the technology used at the back as a backend for the database is "firebase".

**FLUTTER:-**  
 Google developed the open-source Flutter mobile application development framework. It allows developers to build high-performance, cross-platform apps for iOS, Android, web, desktop, and embedded devices using a single codebase.

ARCHITECTURE

Flutter architecture is based on a reactive programming model that consists of several layers that work together to create a highly performant and responsive mobile application.

Here are the key layers of the Flutter architecture:  
**Flutter Engine:** The Flutter engine is written in C++ and is responsible for rendering the app's user interface. It includes a high-performance 2D rendering engine, a

customizable widget set, and APIs to interact with the underlying platform.

**Foundation library:** The foundation library provides a set of classes and functions that are used to build apps. It includes APIs for handling asynchronous tasks, managing app state, and interacting with the device's hardware and software.

**Widgets:** The foundation of a Flutter app's user interface are widgets. They are composable and can be combined to create complex UI elements. A wide variety of pre-built widgets are available in Flutter, as well as the option to design your own.

**Material Design and Cupertino:** Flutter provides two sets of widgets, Material Design and Cupertino, to allow developers to build apps with a native look and feel on both Android and iOS.

**Dart language:** Flutter is built on the Dart programming language, which is a modern, object-oriented language that offers features such as static type checking, garbage collection, and asynchronous programming.

**Plugins:** Flutter provides a plugin architecture that allows developers to access platform-specific features, such as camera or GPS, using a unified API. Overall, Flutter's architecture is designed to provide a high-performance, flexible, and customizable framework for building beautiful and responsive mobile applications.

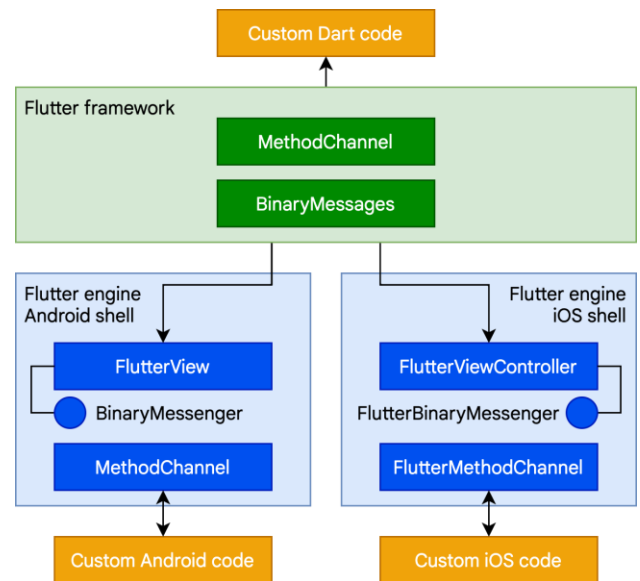


Figure2- Shows the architecture of flutter

**FIREBASE:-**  
 Firebase is a cloud-based platform developed by Google that provides a wide range of services to help developers build, improve, and grow their mobile and web applications. Firebase services are offered as a suite of integrated products that can be used individually or in combination to solve various app development challenges.

Some of the services offered by Firebase include:

**Real-time Database:** A cloud-hosted MySQL database that allows developers to store and synchronize data in

real-time between devices.

**Authentication:** A service that provides secure user authentication and management.

**Cloud Messaging:** A service that enables developers to send push notifications to users across multiple platforms.

**Hosting:** A service that provides fast and secure web hosting for web apps.

**Storage:** A service that allows developers to store and serve user-generated content, such as images and videos.

**Crashlytics:** A service that provides detailed crash reports and analytics to help developers identify and fix app crashes.

**Performance Monitoring:** A service that provides real-time insights into app performance issues and helps developers optimize their apps.

**In-App Messaging:** A service that allows developers to engage with their users by sending contextual messages and prompts.

Firebase is designed to help developers focus on building their app's core functionality, rather than worrying about infrastructure, scaling, or maintenance. It offers a flexible and scalable platform that can be used by developers of any size or skill level

## VI. GOOGLE SURVEY

It is not surprising that a nation's economic prosperity and mental well-being are favorably correlated. According to projections, mental health issues would cause India to experience significant economic losses. Depression, stress, and anxiety

In India, every seventh person suffers from some form of mental disorder. The epidemiology of mental disorders, specifically, depression on a global scale, has been vastly studied. Today, it is regarded as the leading contributor to disease burden and morbidity worldwide that may even result in suicide if left untreated. Risk factors, relative to developing depressive and anxiety disorders, include bullying victimization, childhood sexual abuse, intimate partner violence, and lead exposure as an environmental risk factor which can lead to idiopathic developmental intellectual disability. Further, chronic levels of unmanaged stress and anxiety are known to take a toll on the physical and mental health of an individual. A recent study reflected that 74% of Indians suffered from stress while 88% suffered from some kind of anxiety disorder. Increased heart rates, hyperventilation, chronic weariness, and attention issues are a few of the symptoms. According to studies, the number of stress and anxiety cases among Indians has significantly increased since the pandemic. Pandemic triggered mental health

The implications of living in quarantine, as a result of the COVID-19 pandemic lockdown in India was not only a stress trigger but also had negative psychological effects on the population. Indians learned to adapt to the new normal which affected every dimension of their lifestyle, i.e. levels of physical activity, sleep cycles, nutrition, and their social lives. In an attempt to cope with this paradigm shift, long bouts of stress caused by enforced isolation, financial stress, job cuts, along with unhealthy Lifestyles were the precursors for depression and anxiety. Further,

cases of work-related stress have sky rocketed in India. According to a recent survey, the majority of Indians—nearly 90%—believe that working professionals experience the highest levels of stress due to information overload and dispersed information.. Literacy about mental health at the workplace is the portal for addressing mental health conditions followed by timely interventions. Occupational stress is reportedly the next epidemic that is spreading and, if ignored, could have catastrophic effects on India's economy. World widely in 2018 INDIA has 32.1% mental disorder as compare to other country

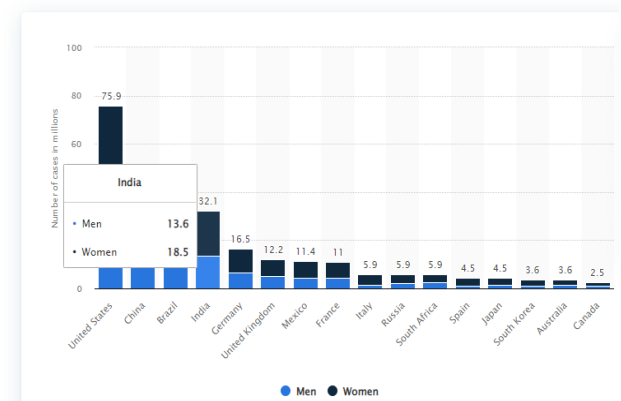


Figure 3- Shows the current mental situation of India

Currently INDIA is suffering from mental issues daily from 6-7% In India the city suffering from more mental issue are: The states with the highest rates of anxiety disorders are Kerala, Karnataka, Telangana, Tamil Nadu, Himachal Pradesh, Maharashtra, Andhra Pradesh, Manipur, and West Bengal, according to the study. According to a gender-based examination, women were more likely than males to experience mental health problems.

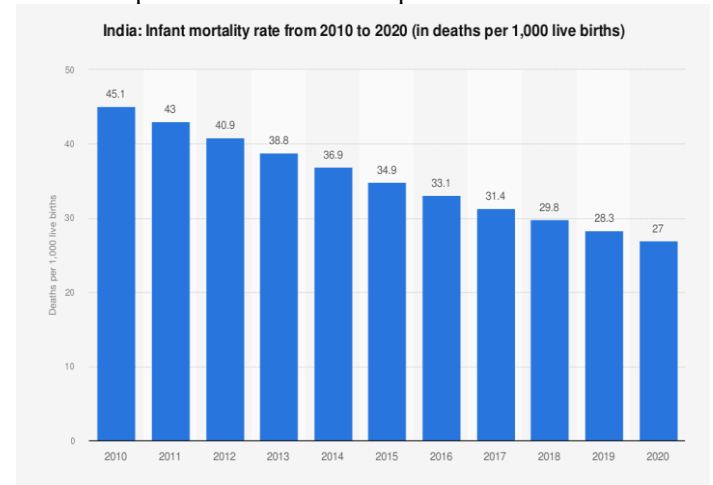


Figure 4- Shows the ratio from 2010-2020

## VII. LITERATURE REVIEW

Mental illness and technology have been the subject of several studies in recent years. The use of technology in the diagnosis, treatment, and management of mental illness has been shown to have several benefits. This literature review

provides an overview of the current state of research in this field. Diagnosis and screening: Technology has been used to develop several online screening tools for mental health disorders. These tools include online self-assessments, mobile applications, and Chatbot. A study by Torous et al. (2018) found that mobile apps can be effective in screening for depression and anxiety. Similarly, a study by Husky et al. (2020) found that an online self-assessment tool can accurately identify individuals with anxiety and depression. Treatment: Technology has also been used in the treatment of mental illness. Several studies have investigated the use of online therapy, which includes cognitive-behavioral therapy (CBT) and other psychotherapeutic interventions. A review by Chippers et al. (2020) found that online CBT can be effective in treating depression and anxiety. Additionally, studies have also found that digital interventions such as mobile apps and virtual reality can be effective in reducing symptoms of mental illness. Management: Technology can also be used in the management of mental illness. For example, wearable technology such as smart watches and fitness trackers can be used to monitor physical activity and sleep patterns, which can be useful in managing symptoms of depression and anxiety. A study by Wang et al. (2021) found that a mobile app that uses wearable technology can improve the sleep quality of individuals with depression. Ethical and legal considerations: While the use of technology in mental health has several benefits, there are also ethical and legal considerations. These include issues around privacy, confidentiality, and data security. A review by Musiaf et al. (2018) found that there is a need for ethical guidelines to be developed for the use of technology in mental health. Overall, the literature suggests that technology can be a valuable tool in the diagnosis, treatment, and management of mental illness. However, there is a need for further research to investigate the effectiveness of different types of technology and to address ethical and legal considerations

## VIII. INTEGRATION OF TECHNOLOGY AND MENTAL HEALTH

Mobile phones, computers, and the internet can all be used to provide digital interventions for a variety of mental health-related problems. These interventions can include keeping in touch with professionals on a regular basis, reminding patients to take their medications, and offering brain-training exercises that can help to lessen the symptoms of different mental health disorders. New technologies have the potential to provide great mental health support, lower barriers to accessing mental healthcare, and offer insights into the mental health and wellbeing of individuals and populations. The COVID-19 epidemic and the ensuing rise in public exposure to remote healthcare technologies have expedited the shift towards new contactless kinds of mental health support. Smartphone apps:

Smartphone apps can offer flexible support, tailored to individuals' lifestyles and needs. Some apps are designed to improve wellbeing through activities such as meditation,

self-help exercises, and mood tracking practices. Others use artificial intelligence (AI) to operate a chatbot and simulate conversations with users in order to provide assessments and suggestions to improve well-being. Some apps aim to provide clinical support for people with mental health conditions. While particular attention has been given to mild depression and anxiety, apps for the treatment of severe conditions have also been developed.

These are usually based on principles derived from existing therapeutic methods, such as cognitive behavioral therapy (CBT) and relaxation training. For example, some apps teach people to manage depression by encouraging them to track symptom severity over time and keep a thought diary.

Online therapy: The Internet makes mental health treatment more accessible, and is a popular option because it can be accessed anytime, anywhere. People who deal with social anxiety can use these methods instead of face-to-face contact. Chatbots and Voice assistants: talking to tech in crisis: For many people, talking to another person about an issue is a barrier in and of itself, which is why chatbots are becoming a popular alternative. Chatbots and voice assistants are 24/7 available for anyone to talk to, also getting smarter and more capable of interacting with us, thanks to machine learning and natural language processing. These chatbots can provide a ear and be a good listener, a place to air concerns, worries, intrusive thoughts or engage in 'therapeutic' small talk.

To overcome such mental illness there are various applications made to help the people who are suffering from it. This where "MIND BLOOM" comes in play

### MIND BLOOM

An app which gives people a platform to work and improve their mental health. To overcome one's depression, stress, anxiety and loneliness a suitable and user-friendly application

### "MIND BLOOM"

To know about how to live a happier life and understand the way of philosophy there is a feature designed to specifically read the motivational stories, teaching how to fight back from your anxiety and loneliness and change your perspective of thinking towards life. This feature focuses on mental illness like depression, suicidal thoughts, traumatic disorder and provides stories which concentrate on motivation, hard work, discipline, etc. The second feature of this application is built to specially bind people with Yoga, which is the best practice for one's mental, physical health. For instance, just doing simple breathing exercise, also exhaling all the CO<sub>2</sub> of your body which results in your blood pressure in control and all your stress is relieved while doing all this the app also offers music to calm your nerves down and give you a mental peace focusing on stress and anxiety. This feature helps the people to improve their mental health.

The third feature which has to be one of the most important features is the therapy

Session where a patient can talk to someone and share his/her feelings with out

Having the fear of being judged, because sometimes all we

need is a listener not an advisor. In this busy world it is tough to have to someone who understands you and just listens to your problems or just communicates with you this issue can mainly be found in students and aged people where students don't have anyone to understand their stressful situation and talk with. In aged people's case, this world's competition and busyness there is hardly anyone whom they can talk with and spend time with. These issues cause loneliness and also bring in other issues like stress, anxiety, and depression too.

### IX. OUTPUT



Fig-5 logo of application

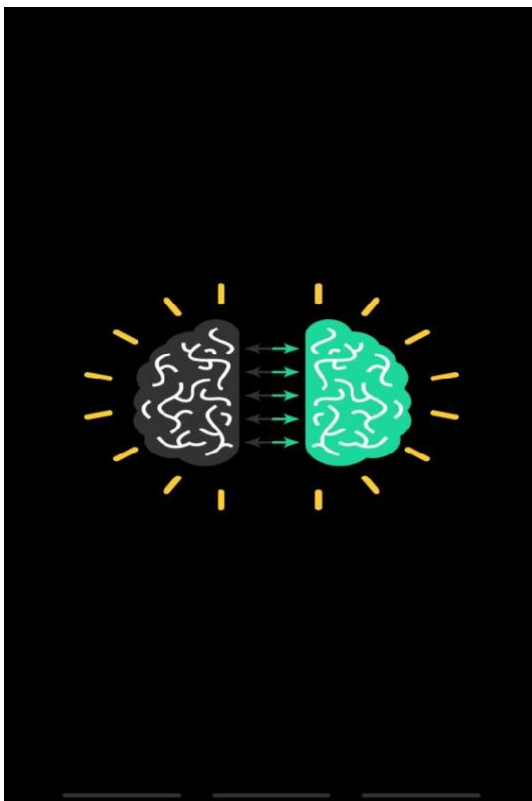


Fig-6 Animation of application

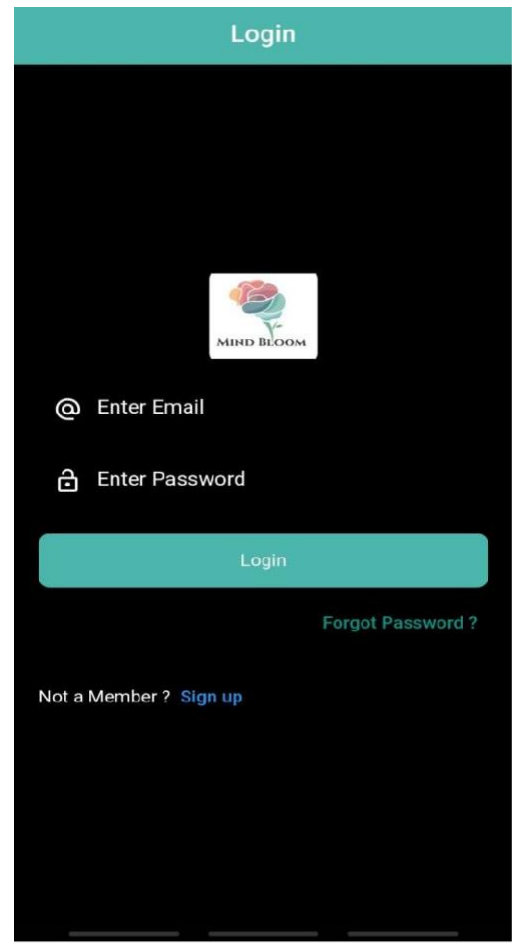


Fig-7 Log in page of application

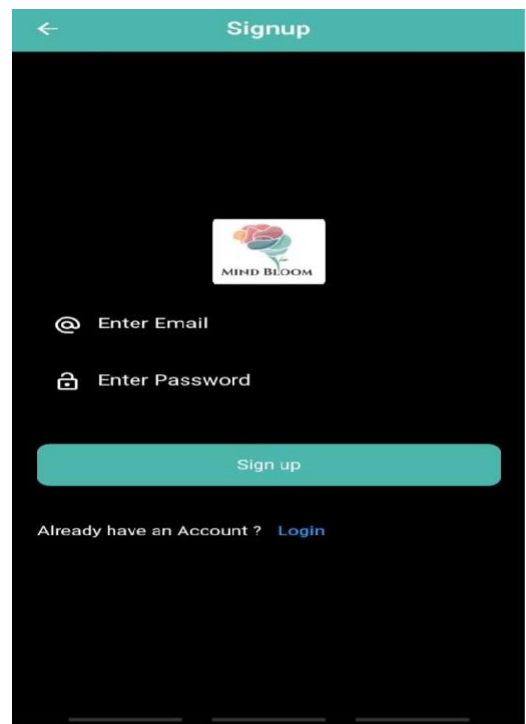


Fig-8 Sign Up page of application

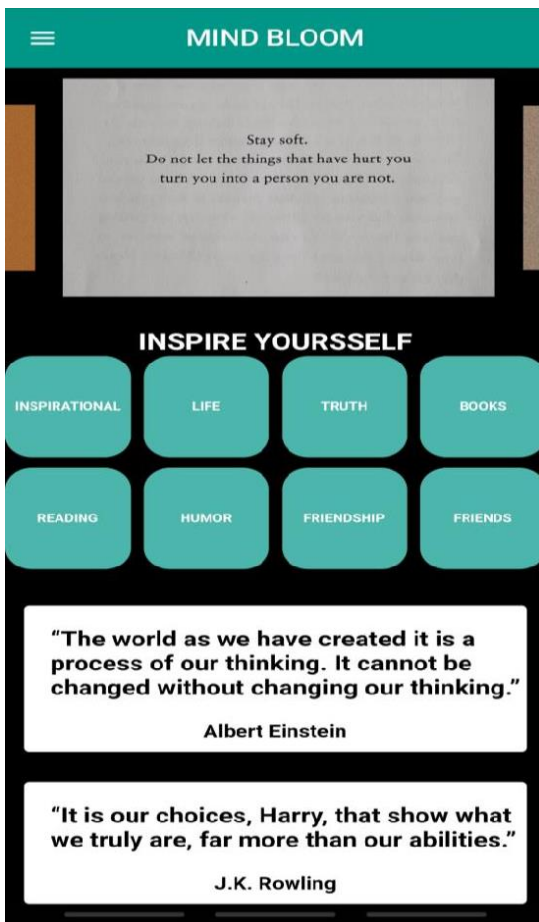


Fig-9 Home page of application

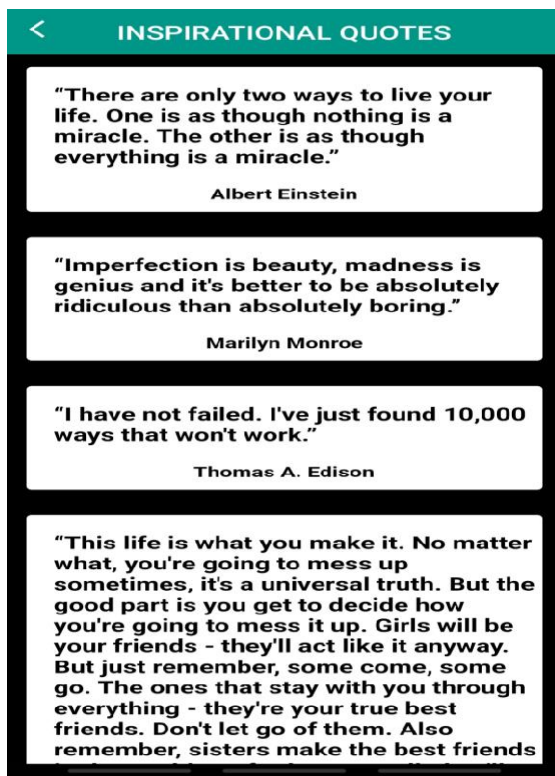


Fig-10 Quotes page of application

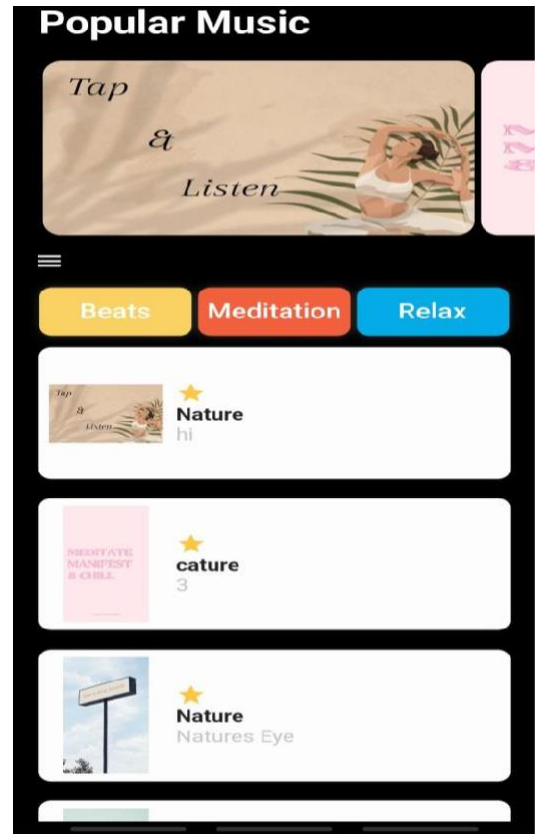


Fig-11 Music page of application



Fig-12 About Us page of application

## X. BENEFITS:

Using mobile health apps to improve mental well-being offers many benefits. These benefits include greater convenience, lower treatment costs, anonymity, continuous and ongoing support and high engagement rates.

Taking care of your mental health can happen anywhere, anytime when you use mobile health apps, making it a very convenient type of therapy. If a patient is struggling to get an appointment locally (especially during a pandemic), a mobile health app should be used whether you need help in the middle of the night or on a business trip.

Psychiatric help or counseling is often much more expensive than mobile health. In fact, mental health programs are often free or less expensive than traditional psychological treatment and counseling. Lower medical costs may be a major reason why many patients choose mobile health apps over traditional medical care.

Anonymity is another important reason why many people around the world prefer to use mental health apps rather than seeing a therapist in person. Many people do not want to share their personal and private information, even with professionals, and prefer to take care of their mental health more privately, without other people. Basically, the anonymity of mobile treatment options can be better for many patients.

There are also people who need constant support for their mental health. Some people may need both a therapist they see in person and the benefits of mobile health apps to manage their mental health at home, at work or even around town. For example, some people may suffer from social anxiety and actually have trouble attending parties. In times like these, using a mental health app can go a long way in relieving stress.

Essentially, technologies such as mobile applications can effectively complement traditional therapy sessions. Combined with personal therapy, these tools can reinforce new skills, improve monitoring and provide additional support.

## XI. CONCLUSION:

Mental illnesses are increasing day by day so is technology. Mental disorders can affect every aspect of our lives. Methods used to reduce it such as talking to a friend, seeking professional help, exercising and journaling can be improved with technology by connecting people online or talking to a Chatbot, tracking your moods, listening to meditative guides and writing down thoughts on your mobile. These days' people do have access to devices and can use it to enhance mindfulness.

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