



# REVIEW ON IMPLEMENTATION OF HEALTH LOG TO TRACK, REFLECT AND IMPROVE HEALTH BY USING PARTICULAR APPLICATION USING AI

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**Abstract:** In today's rapidly evolving world, mental health concerns such as stress, anxiety, depression, and anger are widespread, affecting individuals across different age groups and backgrounds. Social stigma surrounding mental health often prevents open conversations and discourages people from seeking support, leading many to struggle in silence. To address these challenges, this project presents a mental health journaling application designed to offer a secure, interactive, and supportive platform for individuals to monitor and manage their emotional well-being.

This application enables users to document their thoughts and experiences systematically, fostering greater self-awareness and emotional resilience. Core functionalities include mood tracking, guided journaling prompts for self-reflection, and access to curated resources for managing negative emotions. The platform promotes proactive mental health management by helping users identify emotional patterns and offering personalized insights. This initiative aims to bridge the gap in accessible mental health support, empowering individuals to take control of their mental well-being.

**Keywords:-** Mental Health, Mood Tracking, Journaling, Emotional Well-being.

## Introduction

Mental health plays a crucial role in an individual's overall well-being, influencing thought processes, emotions, and daily interactions. In today's fast-paced lifestyle, individuals frequently encounter stress, anxiety, and emotional distress, which can impact personal relationships, work productivity, and physical health. However, societal stigma often prevents individuals from openly discussing their struggles or seeking professional support.

This project introduces a digital journaling application tailored to promote mental well-being by allowing users to document and analyze their emotions over time. This report outlines the development process, technological framework, and expected benefits of the application, emphasizing the role of digital solutions in mental health awareness and self-care.

## Objectives

1. Develop a Mental Health Journaling Application, the main goal is to build a mobile application where users can write about their daily thoughts and feelings in a simple and private way. This will give people a safe space to express themselves without the fear of judgment or privacy breaches.
2. Implement Mood Tracking Features the application will allow users to log their mood on a daily basis using simple options like emoticons and rating sliders. Over time, users will be able to look back and notice how their emotional state changes, helping them better understand themselves.
3. Build an Easy-to-Use Interface, the design of the app will be kept clean and simple so that anyone can use it without any technical knowledge. Guided prompts will be available to help users who are unsure about what to write, making the journaling process less intimidating.

## Methodology:

The methodology for this project is designed to build a reliable and user-friendly mental health journaling application that helps individuals track, reflect, and improve their emotional well-being. The system uses Flutter for frontend development, ensuring a smooth and responsive interface across both Android and iOS platforms, making it accessible to a wide range of users. The backend is developed using Firebase, which handles real-time data storage, user authentication, and secure management of journal entries and mood logs.

User authentication is implemented using Firebase Authentication, ensuring that each user's data remains private and accessible only to them. Journal entries and mood data are stored in Firebase Firestore, which allows fast and reliable retrieval of user records over time. To provide personalized insights and guided journaling prompts, the application integrates the Gemini API, which analyzes user inputs and generates relevant suggestions based on the emotional content of their entries.

Mood tracking is handled through an interactive in-app interface where users can select emoticons or rate their mood using sliders, and this data is visualized using simple charts to help users identify emotional patterns over time. Data security is maintained through end-to-end encryption and strict Firebase security rules, ensuring that sensitive mental health information is fully protected. The overall design follows a clean and minimal UI approach, keeping the experience straightforward so that users of all age groups can navigate the app without any difficulty.

This combined approach results in a secure, intelligent, and easy-to-use mental health journaling platform that encourages regular self-reflection and supports individuals in managing their emotional well-being effectively.

### Literature Survey

Role of Mobile Phones in Mental Health Management, Proudfoot (2013) highlighted how smartphones allow users to access mental health support at any time without visiting a clinic. The study discussed the potential of mobile technology in helping individuals manage mental health conditions independently. It emphasizes that mobile tools are a practical solution for people who avoid professional help due to stigma or cost. [5]

Effectiveness of Mobile Apps for Monitoring Mental Health, Wang, Varma, and Prosperi (2018) conducted a systematic review examining how well mobile applications perform in managing mental health symptoms. The review found that only a limited number of available apps had clinically validated evidence, pointing to a clear need for more research-driven tools. The study highlights the importance of building applications that offer meaningful and evidence-based features to users. [6]

State of Mental Health Apps and Their Limitations, Neary and Schueller (2018) reviewed the current landscape of mental health applications and found that while the number of available apps is growing, most lack clinical backing and proper evaluation. Users often struggle to identify which apps are genuinely useful for their needs. This highlights the need for a structured and transparent journaling platform that users can rely on. [8]

Security and Privacy Barriers in Mobile Health Apps, Zhou, Bao, Watzlaf, and Parmanto (2019) conducted a mixed-methods study and found that privacy concerns and weak security features were the biggest reasons users avoided mobile health apps. The research recommended implementing strong encryption and clear privacy policies from the start of development. This directly influenced the security approach taken in this journaling application. [9]

Growing Prevalence of Mental Health Disorders, Winkler et al. (2020) analyzed data from repeated nationwide surveys and found a significant increase in people experiencing mental health conditions. The study noted that existing clinical services are struggling to meet this growing demand, leaving many without adequate support. This finding justifies the development of self-managed digital tools like mental health journaling apps. [3]

Mental Health Professional Shortage, Thomas, Ellis, Konrad, Holzer, and Morrissey (2009) examined county-level data and found serious shortages in mental health professionals across many regions. The study showed that a large portion of the population lacks access to trained mental health support due to geographical and financial barriers. This shortage motivates the need for accessible digital alternatives that help users manage their emotional well-being independently. [4]

Mental Health Apps in Real-World Psychiatric Treatment, Chiauzzi and Newell (2019) explored how individuals already receiving psychiatric care use mental health apps in their daily lives. Their findings showed that patients valued apps that gave them control over their condition, with mood tracking and journaling being the most appreciated features. This reinforces the importance of the core features included in this project. [20].

### Technological Framework

The backbone of this mental health journaling application is built on the combined capabilities of Flutter and Firebase, working together to deliver a secure, responsive, and intelligent platform. Flutter enables cross-platform development, allowing the application to run smoothly on both Android and iOS devices from a single codebase, ensuring broad accessibility for users across different mobile platforms. Firebase serves as the core backend infrastructure, handling real-time data storage, user authentication, and secure management of journal entries and mood logs.

The application integrates the Gemini API to power its AI-driven features, enabling intelligent analysis of user journal entries and generating personalized prompts and recommendations based on emotional content. Additionally, the system incorporates mood visualization tools such as charts, adapting the experience to individual user behavior and supporting continuous mental health self-improvement.

### Artificial Intelligence

The system uses the Gemini API to analyze and understand the emotional tone of user journal entries. The AI processes written text to detect mood patterns, identify emotional triggers, and generate personalized journaling prompts and recommendations. This helps users gain deeper self-awareness and receive relevant mental health support based on their actual.

### Cross-Platform Development

Built with Flutter, the app delivers a smooth and responsive experience across both Android and iOS, ensuring broad accessibility and a consistent user interface for all users regardless of their device.

## Secure Data Handling

To address privacy concerns, the system employs Firebase security rules and data encryption techniques. Sensitive journal entries and mood data are stored securely, with proper authentication and consent management in place to ensure user data remains fully protected.

## User and Mood Dashboard

To enhance convenience and self-awareness, users are provided with a comprehensive dashboard. This dashboard serves as a centralized space for reviewing past journal entries, tracking mood history, and accessing personalized mental health insights generated by the AI.

## AI-Powered Journaling and Recommendations

The application integrates the Gemini API to analyze journal entries and deliver personalized prompts and suggestions based on the user's emotional state. This automates the process of generating meaningful reflections, reducing the effort required from users while improving the quality of self-care support.

## Multi-Source Emotional Data Integration

To improve accuracy in understanding user emotions, the system integrates multiple data inputs such as mood ratings, emoticon selections, and written journal entries. This combined approach ensures a more complete picture of the user's mental well-being, even when individual inputs alone may not fully reflect their emotional state.

## User-Centric Design

The design and functionality of this mental health journaling application are built around the user, aiming to create a comfortable, private, and meaningful experience. The app features simple mood logging, AI-generated journaling prompts, and a personal dashboard that helps users reflect on their emotional patterns over time. This user-centric approach ensures that every individual can navigate the app effortlessly and use it as a consistent part of their daily self-care routine.

## Techniques

### Cross-Platform Development:

Flutter is used to build a responsive and visually consistent mobile application that works smoothly across both Android and iOS platforms from a single codebase.

### Firebase Backend:

Firebase is used as the core backend to handle real-time data storage, user authentication, and secure management of journal entries and mood records, ensuring reliable performance and scalability.

### AI-Powered Journaling and Analysis:

The Gemini API is integrated to analyze the emotional tone of journal entries and generate personalized prompts and recommendations, helping users gain deeper self-awareness based on their own writing.

### Mood Tracking and Visualization:

An interactive mood logging system using emoticon selections and rating sliders is implemented, with visual charts that help users identify emotional trends and patterns over time.

### Real-Time Data Sync:

Firebase Firestore enables real-time synchronization of journal entries and mood data across sessions, ensuring users can access their records instantly whenever they open the app.

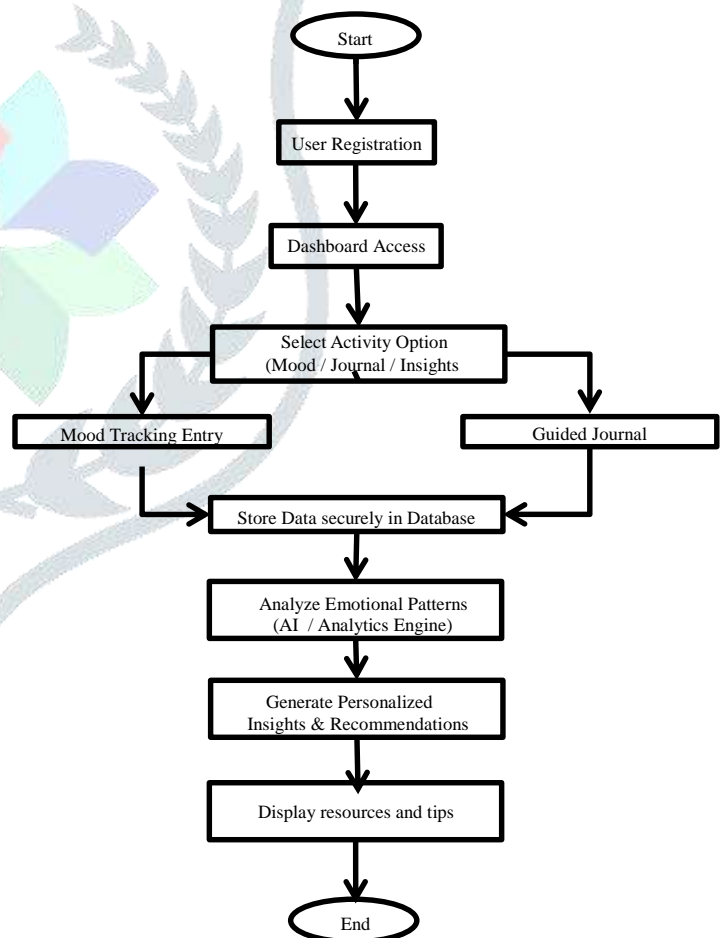
### Secure Authentication:

Firebase Authentication is implemented to ensure each user's account and data remain private and protected, with secure login processes preventing unauthorized access.

### Data Encryption and Privacy:

Firebase security rules along with HTTPS protocols are applied to encrypt all data in transit and at rest, ensuring sensitive mental health information is fully safeguarded at all times.

## Flowchart



## Socio-Economic Impact

Mental health is no longer a hidden issue affecting only a few individuals — it has become a widespread concern impacting students, working professionals, families, and communities. Stress from academic pressure, workplace competition, social entries expectations, and personal challenges often goes unaddressed because many people feel uncomfortable discussing their emotions openly. Fear of judgment and social stigma still prevent individuals from seeking professional help, causing emotional struggles to remain unnoticed until they become severe.

This mental health journaling application can create a meaningful social impact by providing a safe and private space where individuals can express their thoughts without fear of criticism. By encouraging regular self-reflection and mood tracking, the app helps users better understand their emotional patterns and triggers. Over time, this self-awareness can reduce emotional outbursts, improve communication in relationships, and promote healthier coping mechanisms.

For students, the platform can serve as a stress-management companion during exams and career uncertainty. For working professionals, it can help manage workplace stress and burnout. For individuals who hesitate to approach therapists due to financial, social, or accessibility barriers, the application acts as an initial support system that encourages emotional expression and early intervention.

## Conclusion

Mental health is an essential part of overall well-being, yet it often remains overlooked due to stigma, lack of awareness, and limited access to support systems. The proposed mental health journaling application aims to address this gap by offering a safe, structured, and user-friendly platform where individuals can regularly reflect on their thoughts, track their moods, and access helpful resources.

By encouraging consistent self-expression and emotional monitoring, the application promotes self-awareness, emotional resilience, and proactive mental health management. Rather than replacing professional therapy, it serves as a supportive companion that empowers users to recognize patterns in their emotions and take early action when needed.

In a world where stress and anxiety are increasingly common, such digital solutions can play a crucial role in normalizing mental health conversations and making emotional support more accessible. Overall, this project contributes toward building a healthier and more emotionally aware society by helping individuals take control of their mental well-being in a simple, private, and meaningful way.

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