Mood Diary and Daily Tracker: An Android Application for Emotional Well-Being

SHRADDHA S. DIGHE[1], PRACHI K. BORSE[2], YOGESHWARI R SATHE[3], ANGEL R. GILL[4], PROF. PRIYANKA GHENAND[5]

[1, 2, 3, 4, 5]Computer Diploma Department, P.K. Technical Campus, Chakan, Pune, India

Abstract- Mobile mood-tracking applications are increasingly used to help individuals understand their emotions and support mental well-being. Many existing Android-based mood diary apps allow users to record daily moods using text, emojis, or icons and display basic charts. However, most focus solely on mood logging and often lack features such as personalized suggestions, sentiment analysis, integration with daily routines, and robust data security. This paper presents the design of an Android-based Mood Diary and Daily Tracker application. The proposed system allows users to record moods through text, images, or voice notes and manage daily routines with a simple to-do list. A basic sentiment analysis approach is applied to classify moods into positive, neutral, or negative categories. Based on the classified mood, the app provides personalized suggestions related to diet, yoga, and healthy lifestyle habits. The system displays weekly and monthly mood trends using visual charts. User data security is ensured via Firebase Authentication and Firestore. The proposed application aims to encourage regular mood tracking, improve emotional self-awareness, and provide guidance for mental well-being. It will be evaluated on user interaction, effectiveness of mood tracking, and comparison with existing research, highlighting the benefits of an integrated mood diary system.

Index Terms—Mood Diary Application; Mental Health Tracking; Sentiment Analysis; Daily Routine Management; Personalized Suggestions; Android Application; Firebase Authentication.

I. INTRODUCTION

Mental health is very important for overall well-being, but many people find it hard to keep track of their daily emotions. School or work stress and personal responsibilities can affect emotional balance. Because of busy lives, people might not think about their mental state often, which can cause long-term emotional stress.

As smartphones become more common, mobile apps have become a simple way to help with mental health.

Mood diary apps help users write down their feelings every day and see how they change over time. Studies have shown that tracking moods regularly can improve emotional awareness and self-reflection [1]. Most current mood diary apps let users log moods with text or emojis and show simple trend charts [2].

Even though these apps are helpful, many have limitations. They often only focus on recording mood and don't connect mood data with daily routines or tasks. Features like basic mood analysis, personalized advice, and secure cloud data storage are not usually found in simple mood tracking apps [3]. Because of this, users may not learn much from using the app over a long time.

To address these issues, this paper proposes an Android Mood Diary and Daily Tracker app. The system lets users record moods with different input methods and track daily routines using a to-do list. A simple sentiment analysis method is used to classify moods, and Firebase is used to ensure secure login and data storage. The main goal is to make a simple, easy-to-use app that helps people understand their emotions and maintain healthy daily habits.

II. LITERATURE REVIEW

Many studies have looked at using mobile apps to support mental health and emotional well-being. The World Health Organization says that regularly checking one's mental health can help people notice emotional changes and manage stress better [1]. As more people use smartphones, mood tracking apps have become an important research area.

Caldeira et al. looked at popular mood tracking apps and found that most support basic mood logging with text or icons and simple charts for trends [2]. These features help users see their emotional patterns.

However, the study noted that deeper analysis and personalized features are limited.

Lee et al. studied how easy and engaging mood tracking apps are to use. They found that while graphs and visuals make apps easier to use, many apps do not connect mood data with daily activities or routines [3]. This makes it hard for users to see how their habits affect their emotions.

Other researchers have looked at using sentiment analysis in mental health apps. Smith and Brown showed that sentiment analysis can classify emotions into positive, neutral, or negative based on what the user says [5]. However, these techniques are often complex and not easy enough for simple mood diary apps.

Keeping data safe is also a big concern in mental health apps. Since emotional data is private, apps need secure login and cloud storage. Firebase Authentication and Firestore database have been suggested as reliable ways to protect user data in mobile apps. However, many mood tracking apps do not clearly handle security in a simple way for users.

III. IDENTIFIED GAPS IN EXISTING RESEARCH

From these studies, we see that most mood tracking apps only support basic mood recording and simple charts [2][3]. Linking mood data with daily routines or to-do lists is limited [4]. Personalized lifestyle suggestions based on mood are often missing, which reduces long-term user engagement [4]. Although sentiment analysis and secure cloud storage are mentioned in research, they are rarely combined in a single, simple, easy-to-use app [5]. This shows we need an integrated mood tracking system that covers many needs at once.

IV. PROPOSED SOLUTION BASED ON LITERATURE GAPS

To fix these gaps, this research proposes an Android Mood Diary and Daily Tracker app. This system combines mood logging with daily routine management to help users see how emotions relate to daily activities [2]. A simple sentiment analysis method will classify moods as positive, neutral, or negative [5]. Based on the mood, the app gives simple personalized suggestions for lifestyle habits. We use Firebase Authentication and Firestore to ensure secure login and cloud data storage to protect user data. The solution focuses on simplicity, integration, and data security to help with better emotional self-awareness.

V. METHODOLOGY

The proposed Mood Diary and Daily Tracker app is designed based on its main functions:

1. Login and Registration: The app provides a secure login and registration system. New users can create an account, and existing users can log in with their username and password. This keeps personal data private.
2. Daily Diary Entry: Users can write daily diary entries to record their thoughts and experiences. These entries help users think about daily events and emotions.
3. Daily Routine Follow-Up: The app lets users add and track daily routines or tasks. This helps users see if planned activities are completed.
4. Mood Data Collection: Users can record moods using text, images, or voice notes. Each entry is saved with the date and time for future reference [3].
5. Mood Entry with Personalized Suggestions: After a mood entry is recorded, sentiment analysis is used to classify the mood. Based on the result, personalized suggestions are given to support emotional well-being.
6. Tracker Dashboard: The tracker dashboard shows mood records, diary entries, and routine status in a simple way, making it easy for users to see patterns.
7. Mood Trend Visualization: Weekly and monthly mood trends are shown using charts. These visuals help users understand emotional changes over time [3].

VI. SYSTEM ARCHITECTURE

Figure 1. App Architecture of the Mood Diary

Figure 1 shows the working architecture of the Mood Diary and Daily Tracker application. The process begins with user input, where the user records their mood using text, emojis, voice notes, or images. This input is then processed by the AI sentiment analysis module, which analyzes the content of the entry. Based on this analysis, the system performs mood classification and categorizes the emotion as positive, neutral, or negative. After identifying the mood, the application provides personalized tips such as suggestions related to diet, relaxation, or healthy lifestyle habits to help improve the user's emotional state. Finally, the collected mood data is displayed through visualization, where charts and graphs show mood trends over time. This helps users easily understand their emotional patterns and track their mental well-being.

VII. CONCLUSION

This paper presented the design of an Android Mood Diary and Daily Tracker app to support emotional self-awareness and mental health. The system combines mood tracking with daily diary entries and routine tracking in one app. By letting users record moods with text, images, or voice notes, the app offers flexible ways to express emotions.

A simple sentiment analysis will classify moods as positive, neutral, or negative. Based on these results, the app gives simple personalized lifestyle suggestions to encourage healthy habits. The tracker dashboard and mood trend charts help users see emotional patterns over time. Secure login and cloud data storage using Firebase services ensure user privacy and data protection.

Overall, the app focuses on simplicity, integration, and ease of use. It should help users better understand their emotions, follow daily routines, and develop healthier lifestyle habits. In future work, more advanced sentiment analysis and additional wellness features can be explored to improve the system.

REFERENCES

[1] World Health Organization, Mental Health: Strengthening Our Response, WHO, Geneva, Switzerland, 2022.

[2] C. Caldeira, M. Chen, and J. Zheng, "Mobile applications for mood tracking and self-reflection: A review," Journal of Medical Internet Research, vol. 19, no. 8, pp. 1–12, 2017.

[3] J. Lee, K. Park, and S. Kim, "Design and usability study of mobile mood tracking applications," International Journal of Human–Computer Interaction, vol. 34, no. 9, pp. 1–10, 2018

[4] R. Morris and S. Aguilera, "Mobile, social, and wearable computing and the evolution of psychological practice," Professional Psychology: Research and Practice, vol. 43, no. 6, pp. 622–626, 2012.

[5] S. Smith and B. Brown, "Sentiment analysis for mental health monitoring using user-generated text," Procedia Computer Science, vol. 132, pp. 115–124, 2018.