

Companion App : A Mental Health Tracker Built Using Flutter and Firebase

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ABSTRACT

Acknowledging the necessary role of mental health in overall well-being of humans, In this paper we are introducing a mobile application developed with Firebase and Flutter, dedicated to monitoring mental health. In today's world, where mental health problems are constantly growing, taking precautions to manage one's well-being is necessary. The application allows the users to track their moods, highlighting the importance of self-care. By using Firebase and Flutter technologies, the application ensures a seamless user experience, advancing the accessibility of mental health support in the digital age. Moreover, the application incorporates features such as progress tracking, enabling users to set achievable targets and monitor their journey towards improved mental health. By facilitating seamless communication between users and, the app fosters a supportive community where individuals can seek guidance and encouragement when needed. Additionally, Firebase's real-time data synchronization ensures that users have access to the latest updates and insights, promoting continuous engagement and growth. In this way, our mobile application not only provides a means for self-care but also fosters a sense of connectedness and empowerment in addressing mental health concerns.

Keyword: - Mental health, Mobile application, Firebase, Flutter, Progress tracking

1. INTRODUCTION

Mental health encompasses a wide range of emotional, psychological, and social well-being issues, from common disorders like depression and anxiety to more severe conditions like schizophrenia and bipolar disorder. Despite its importance, mental health often faces discrimination and barriers in accessing care. Trauma and adverse life experiences can also significantly impact mental well-being, but resilience factors such as supportive relationships and effective coping mechanisms can help mitigate these effects. Early detection and intervention are crucial for managing mental health disorders, but accessing timely care remains a challenge for many. Technology, particularly mobile applications, is increasingly recognized as a valuable tool for bridging gaps in mental health care delivery. Our research aims to develop an AI-driven system for early detection of mental health disorders, offering objective assessments and personalized interventions across diverse healthcare settings. The paper outlines the development of our app, which features mood tracking, personalized recommendations, community engagement, and music therapy.

2. RELATED BACKGROUND

Previous studies have explored the landscape of mobile applications dedicated to mental health support, highlighting the significance of technology in addressing the prevalent issue of mental health challenges worldwide. The Mindset app emerges as a notable solution, focusing on providing tools such as mood tracking, meditation, journaling, and breathing exercises to aid users in managing stress and anxiety. Developed in collaboration with mental health professionals, Mindset offers personalized resources, educational content, and community support to reduce stigma and prioritize user well-being. Similarly, the Companion app targets the mental health needs of students, offering a user-friendly interface with features like a homepage dashboard, journal page, and recommended articles section. Users can access personalized notes from doctors, motivational articles, and schedule appointments with ease. With privacy ensured through data storage in the Airtable database and Firebase authentication, Companion integrates Figma, Bravo Studio, and Airtable for seamless data binding, providing a comprehensive platform for students to prioritize their mental well-being. These applications represent significant strides in leveraging technology to revolutionize mental health support, offering accessible and user-friendly resources to improve overall well-being.

3. METHODOLOGY

The primary challenge with individuals of all ages is that they may not always recognize the need for assistance when facing problems. To engage their interest in the Companion app, the approach will emphasize its function as a platform for fostering friendships rather than solely a consultation service. This will involve designing a user-friendly interface and app workflow that prioritizes the aspect of forming connections and support networks.

3.1 TOOLS AND DEVELOPMENT METHOD

The UI design of Companion app used Reeves's model that has process clearly, as follows: 1. Analysis of practical problem, 2. Solution development and technological innovation, 3. Iterative cycles of testing and solution refinement, and 4. Reflection to enhance design principles and implementation. The main problem with users is that they do not feel like they need help when they have a problem. To attract their interest in the Companion app, what will be made is to present a friendship application and not like a consultation application in general. Starting with a friendly UI and app workflow that also supports friendship. Companion app is built with platforms such as Flutter, Figma, Visual Studio Code, and Firebase are used to create the app. Briefly, Flutter is a UI/UX design platform to prototype the layout and user experience for Android and iOS apps, as well as websites. Figma can work as an offline desktop application for MacOS and Windows. Figma is used to design the UI of this mobile application, in the form of vector so it can be deployed on the website either, the results can be seen in real time. This platform uses the cloud, so it can be used anytime, anywhere, and by anyone as a team. Using the Visual Studio platform can turn Figma's mobile UI into an app's front-end implementation without much coding. The platform also provides a connection to the back-end application, namely Firebase. Firebase is one of Google's cloud services, used in applications for authentication services such as sign-up and login for users. After successfully logging in, they can only use all the features contained in the application. The use of the Companion app is still in the prototype stage, so Reflection to get feedback to improve the quality of this application is still in the lab test stage.

4. RESULTS

4.1 Companion App Design

A. App Flow Diagram

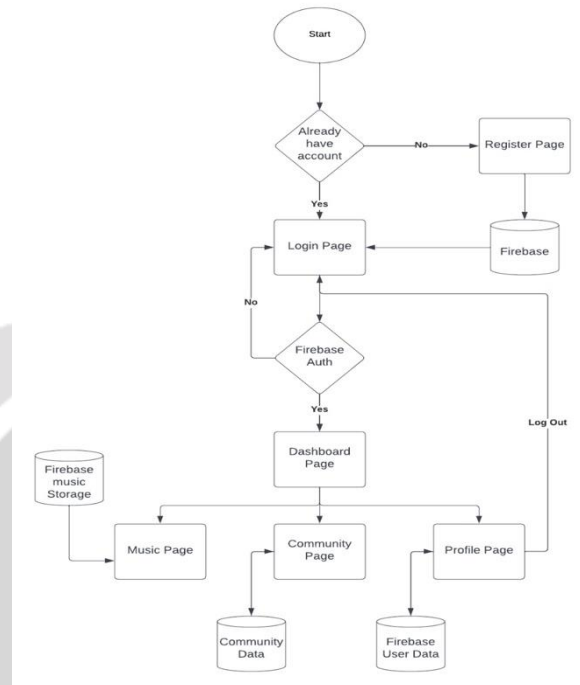


Fig -1: Companion App Dataflow

The dataflow of the companion App is given in Fig-1. When the user opens the application if user is not registered it will take into the sign page or else into login page. Upon entering the login credentials the Firebase will authorize whether the credentials are present in the database. Once the user enters the application after Login user will be landed of the Dashboard page from where he can navigate into other Screens like Community , Music or Profile page.

B. Login and Signup

The login and Sign-Up page of Companion is shown in Figure 4. Login page is connected to the Firebase authentication. When a user attempts to login, it will check whether the user's login info exists and is valid. If so, it leads to the dashboard page. Otherwise, the user can click Sign Up and it leads to Sign Up page to make a new account.

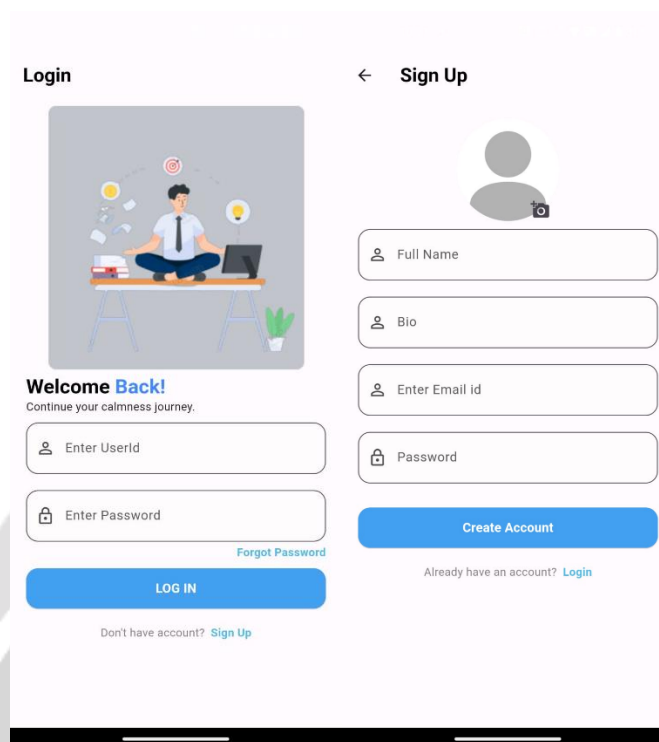


Fig -2: Login And SignUp Screen

C. Profile and Biodata

In Figure 5 we show the create user page and view profile page. Only select most important information is shown in the view profile page. The data and information that has been applied will be stored in Firebase database in their corresponding user's account respectively. Companion aims to serve the users with comfort and privacy. Users can pick themselves a nickname and remain anonymous. The new accounts would be added to the Firebase authentication. Required information for the User app are full name, bio, e-mail, ID/username, password.

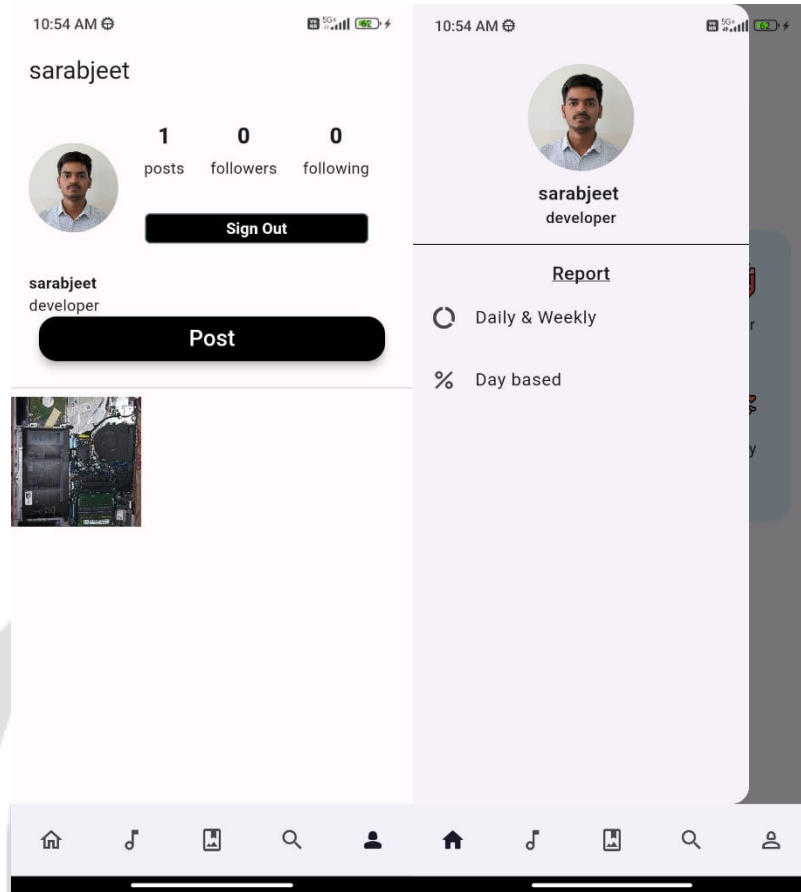


Fig -3:User Profile

4.1 Companion App Features

A. Dashboard Screen

The dashboard page works the same as a home page of an app, it is the first screen the user sees after logging in . This page shows the menu or features that are provided by Companion App. The menu bar is present at the bottom of the screen which leads to other pages like Music , Community , Search . The User is first prompted to select the mood out of the given options . Once the mood is selected according to the mood the tasks are recommended to the user . The tasks are given in a checkbox style system . to serve the users with comfort and privacy. Users can pick themselves a nickname and remain anonymous.The new accounts would be added to the Firebase authentication. Required information for the User app are full name, bio, e- mail,ID/username , password .

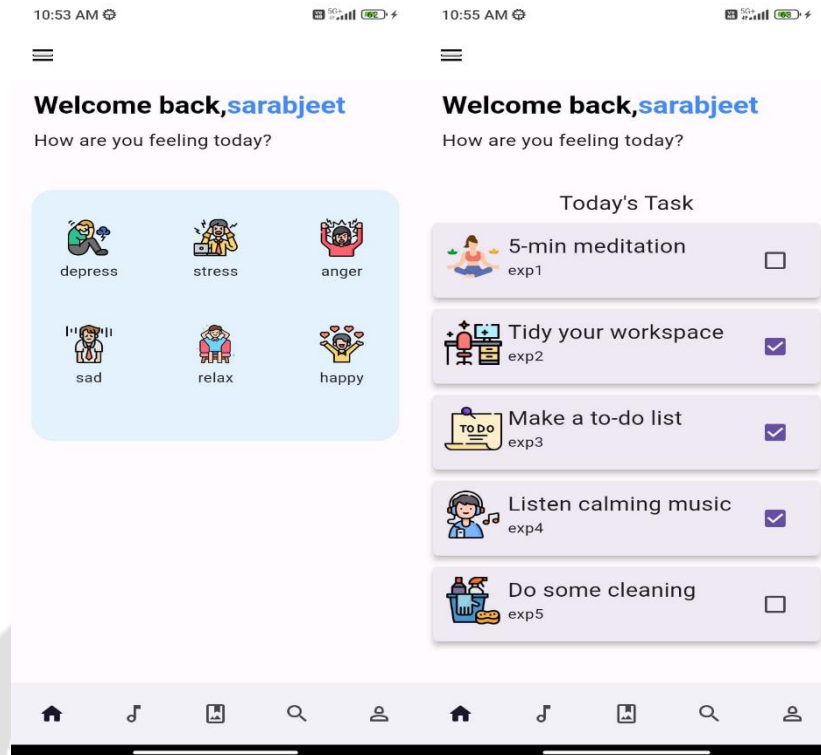


Fig -4: Dashboard Screen

B. Music Player Screen

Upon selecting the Music icon in the navigation menu the user gets taken to the music player screen . The user can play the music through two option 1. Cloud 2. Local Device. The Cloud Player consists of preloaded songs that are designed to give calming effect and to have a pleasant mood. The local player acts like a local music player application allowing users to play existing songs.

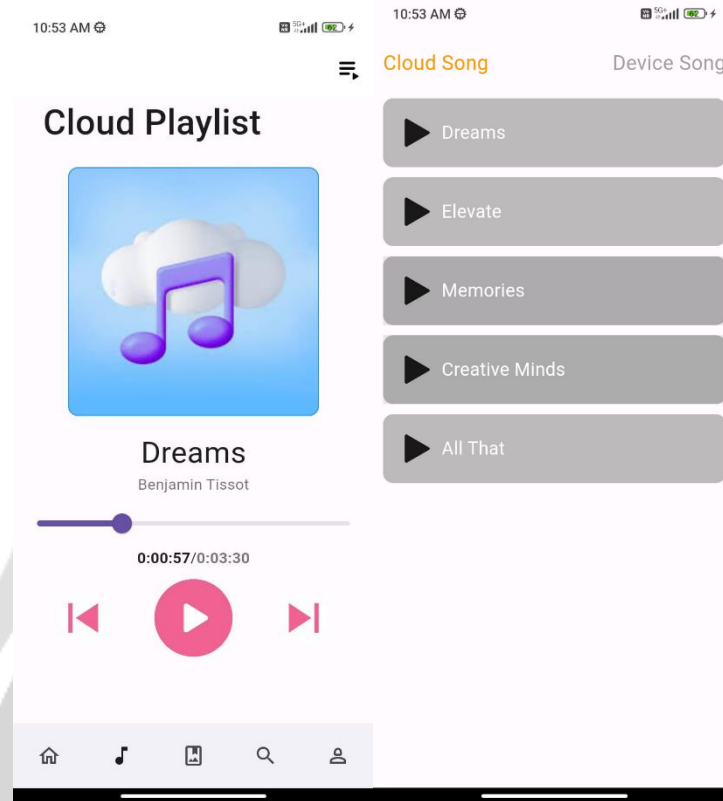


Fig -5: Music Player

C. Community Screen

By pressing the middle icon in the navigation menu, the user enters into the community section of the application. This is the section where all the users of the application can share their thoughts and feelings. The users can post images and comment on others' posts. A like system has also been integrated. The users can also have the option to delete their posts. A search system is also present where users can search for others using their respective user names.

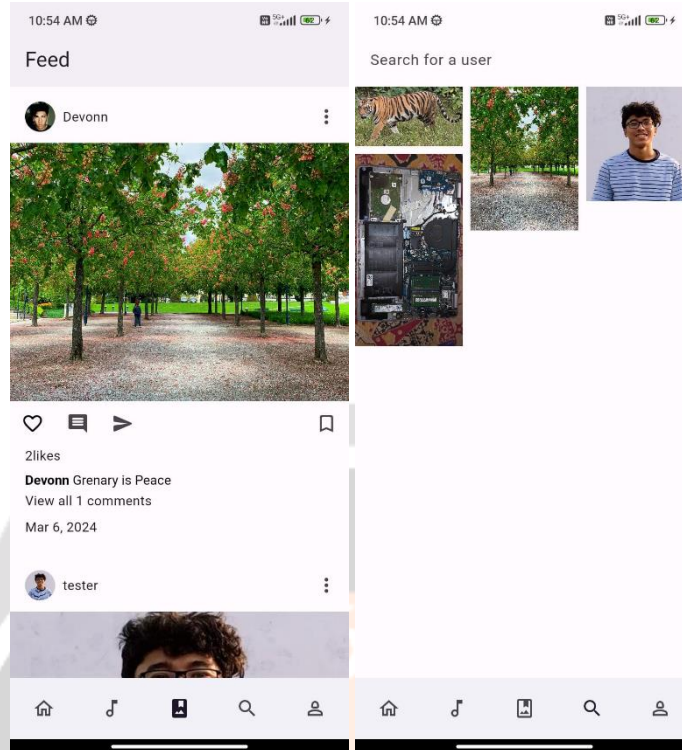


Fig -6: Community Screen

D. Reports Screen

The user is able to see his past 7 days moods in the reports screen as well as the past few weeks score based on the bar graph. This gives them a quick glance of their previous moods for the past few days as well as see the percentage of the tasks completed. This allow them to track their respective moods which is the main functionality of this application

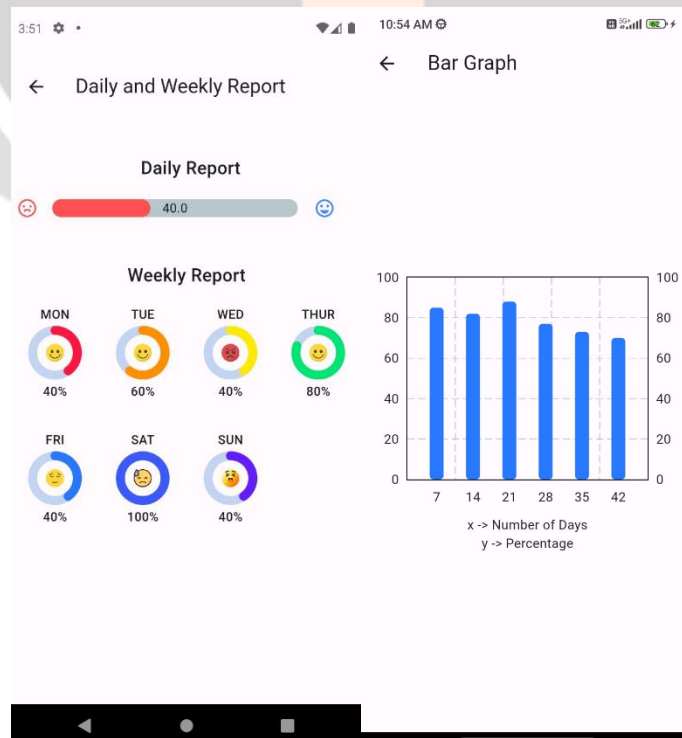


Fig -7: Reports Screen

5. CONCLUSION

We have developed an app that has simple and clean navigation to focus on usability as well as ease of use by minimizing the amount of multi-tiered page structures. Our hope through this app is to make users feel comfortable expressing and sharing their thoughts and feelings without any fear. Companion was built using a combination of Flutter, Figma, and Firebase. Future works for Companion includes dynamic news feed , journal , article recommendation . Considering how it may be hard for users to stay in a health app for a very long time, we also consider implementing games or activities. For example, growing a tree on the app. Every time the user successfully does a task (ex: drink water, slept for 7 hours last night, etc.) they would receive planting equipment to grow the plant. .authors can acknowledge any person/authorities in this section.

6. REFERENCES

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