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Curae: Mental Health Companion

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ABSTRACT: Curae focuses on building a mental health companion. It will try to get an idea of the mental state of your user (in the least intrusive ways), find out if they are suffering and then suggest measures, they can take to get out of their present condition. A user answers some questions and based on the answers that they provide, you will suggest tasks to them and maintain a record of their mental state for displaying on a dashboard. Mental disorders are widespread in countries all over the world. Nevertheless, there is a global shortage in human resources delivering mental healthservices. Leaving people with mental disorders untreated may increase suicide attempts and mortality. To address this matter of limited resources, conversational agents have gained momentum in the last years. In this work, we introduce a mobile application with integrated Chabot to support mentally ill people in regulating emotions and dealing with thoughts and feelings. Application asks the user on a dailybasis on events that occurred and on emotions. It determines automatically the basic emotion of a user from the natural language input using natural language processing and a lexicon-based approach. Depending on the emotion, an appropriate measurement such as activities or mindfulness exercises is suggested by application.

I.INTRODUCTION

Mental health is an essential aspect of our daily lives. It refers to the state of mind in which individuals are aware of their abilities and limitations. However, when mental health deteriorates, it can significantly impact every aspect of one's life, including relationships, work environment, and overall well-being. Mental health issues encompass a wide range of conditions, such as anxiety disorders, emotional disorders, bipolar affective disorder, depression, and eating disorders. The past two years have been particularly challenging due to the ongoing pandemic and the resulting strict lockdown measures. Being confined to our homes for extended periods of time has given us ample opportunity to dwell on various thoughts and concerns. Overthinking, frustration, and diminished confidence have become all too common, affecting our mental well-being. Isolation, unemployment, financial losses, and numerous other worries constantly plague our minds, further exacerbating our mental health challenges. Unfortunately, these circumstances have led some individuals to turn to drugs and alcohol as a means of coping. One significant barrier to addressing mental health issues is the reluctance to openly discuss them. Many people fear judgment and ridicule if they were to disclose their struggles. This societal stigma prevents individuals from seeking the support and assistance they desperately need. In light of these challenges, there is a growing need for solutions that can support individuals in managing their mental health. One potential approach is the development of a simple app using Flutter. This app could track the user's mental health and offer suggestions and tasks to help them navigate their conditions. By leveraging natural language processing and a lexicon-based approach, the app could automatically analyze the user's input and determine their underlying emotions. Such a tool would not only assist individuals in monitoring their mental well-being but also provide valuable insights into their progress over time. Overall, promoting open conversations about mental health, creating supportive resources, and leveraging technological advancements can play a crucial role in addressing the profound impact of mental health issues on individuals and society as a whole.

II. RELATED WORK

Existing system have the set of fixed questions to every user. Existing system runs in only android. In this, evaluation was done by the responses taken from the user of stored staticquestions.

The proposed system uses flutter for cross-platform development. Uses AIML, NLP, andDialogue flow SDK. CUARE will give introduction guidelines that how to use this app after that login page will be there. If the user doesn't have a login then the user can do a signup. After that, some questions will be asked to the user. According to the answer given by the user, thecurrent mental state and current mood will be identified and the result will be shown to the user. User can see their mental progress in terms of a graph. According to the report, some activities will be suggested to the user to improve their mental health condition.This app is user-friendly app. The user interface of this app is user-friendly and the functionality is understandable to the user. It will give a complete picture of the emotional state of user by using some questionnairesasked in the app and the user needs to answer that. In this way we can predict mental health of user and we can assign tasks to improve their mental health condition.

III. METHODOLOGY

For our project, the chosen programming language is Dart. Dart is widely recognized as an easy-to-learn and powerful programming language and used to develop cross-platform applications.

Developing a methodology for a mental health companion application requires a structured approach that involves gathering information, designing the application, implementing features, and evaluating its effectiveness. Here's a step-by-step methodology that you can use as a reference:

Research and Understanding: a. Conduct a comprehensive review of existing mental health companion applications to understand their features, strengths, and limitations. b. Familiarize yourself with relevant research, guidelines, and best practices in the field of mental health and digital interventions. c. Identify potential target users and their specific needs, considering factors like age, mental health conditions, and preferences.

User Needs Analysis: a. Conduct interviews, surveys, or focus groups to gather user feedback on their expectations, requirements, and challenges related to mental health support. b. Analyze the collected data to identify common patterns, pain points, and key functionalities desired by the target users.

Design and Features: a. Create user personas that represent the target users and their characteristics. b. Based on the user needs analysis, develop a list of essential features and prioritize them based on their impact on user experience and mental health support. c. Create wireframes or prototypes to visualize the application's user interface, ensuring it aligns with best practices for usability and accessibility.

Development: a. Choose an appropriate technology stack for application development, considering factors such as platform compatibility and scalability. b. Break down the development process into smaller tasks and allocate resources accordingly. c. Implement the features and functionalities based on the design and prioritize iterative testing and feedback to ensure quality and usability.

Data Privacy and Security: a. Incorporate industry-standard encryption and security measures to protect user data and maintain confidentiality. b. Comply with relevant data protection regulations, such as General Data Protection Regulation (GDPR) or Health Insurance Portability and Accountability Act (HIPAA), depending on the application's scope and target audience.

Evaluation and Continuous Improvement: a. Conduct usability testing and gather feedback from a diverse group of target users to identify areas for improvement. b. Analyze user engagement metrics, such as app usage, feature adoption, and user satisfaction surveys, to measure the effectiveness of the application. c. Continuously iterate and update the application based on user feedback and emerging research in the field of mental health.

IV. EXPERIMENTAL RESULTS

Figures shows the results of the application
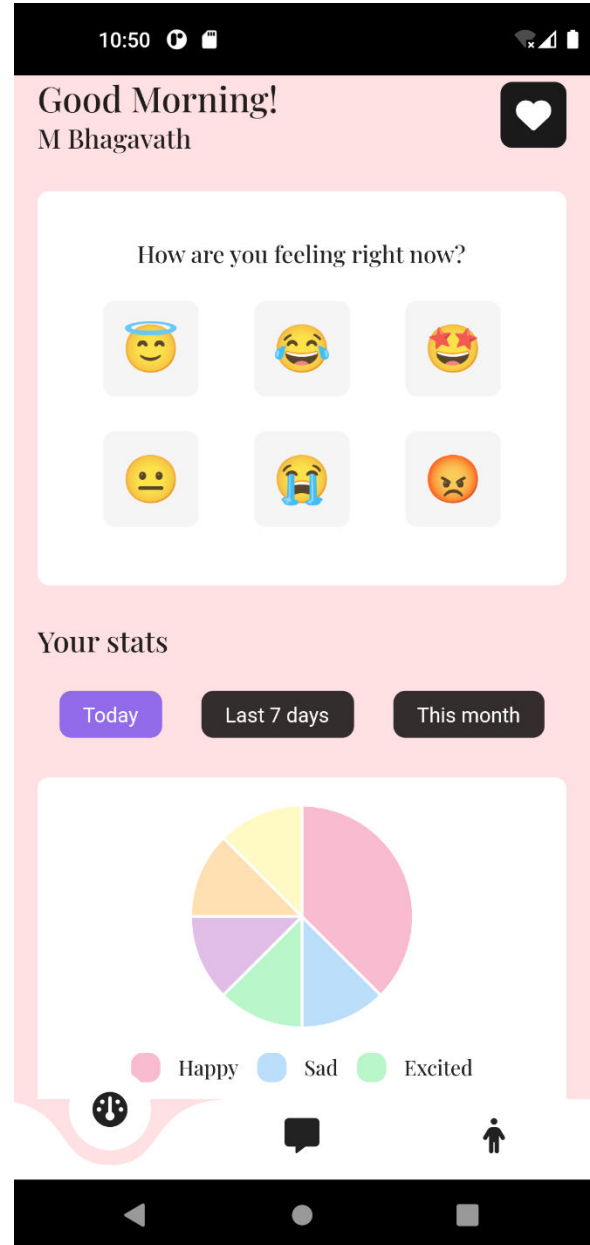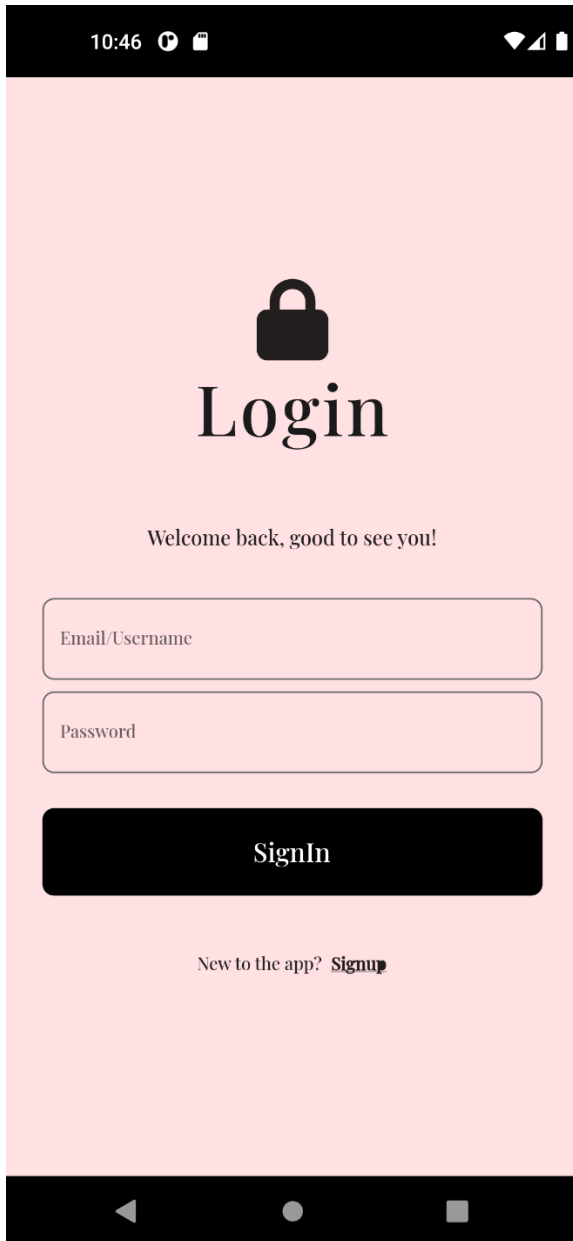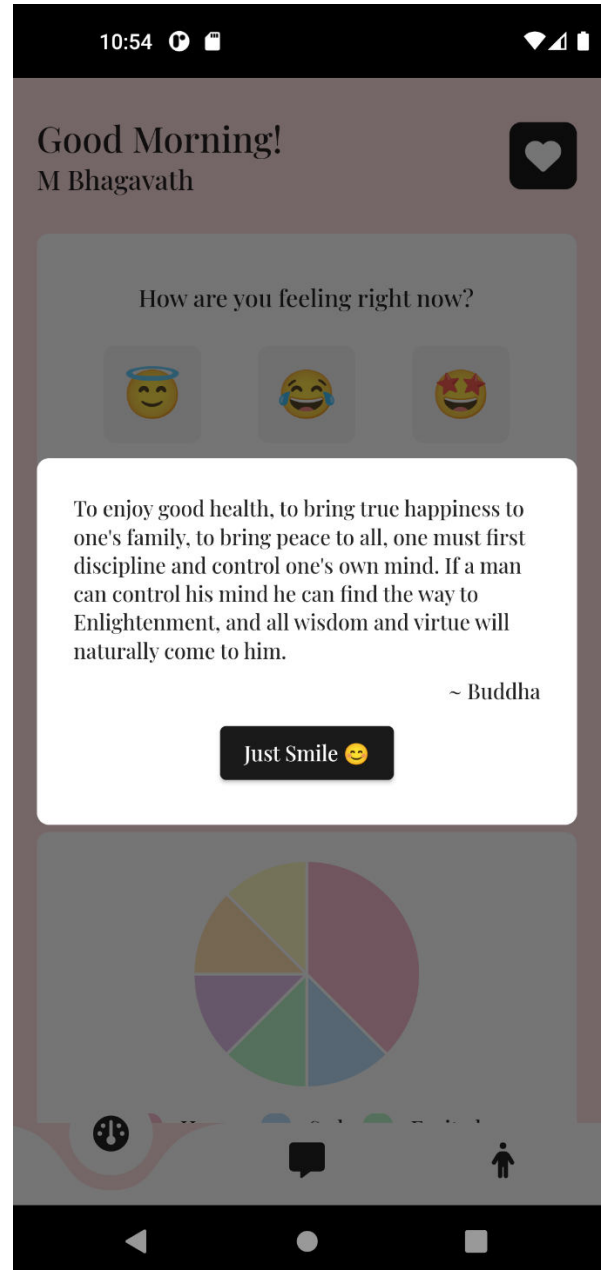
V. CONCLUSION

In conclusion, the development of a mental health companion application holds immense potential in addressing the growing concerns and challenges surrounding mental health. Such an application can serve as a valuable tool to promote mental well-being, provide support, and enhance access to mental health resources. By leveraging the power of technology, this application can offer personalized assistance, empowering individuals to manage their mental health effectively. Through the use of various features, including mood tracking, mindfulness exercises, and guided therapy sessions, the mental health companion application can assist users in understanding their emotions, identifying patterns, and adopting healthy coping mechanisms. The application's user-friendly interface and intuitive design make it accessible to a wide range of individuals, including those who may have limited access to traditional mental health services. Furthermore, the application's ability to collect and analyze data can provide valuable insights into the user's mental health journey, enabling them to track progress over time and make informed decisions about their well-being. With built-in security measures and respect for privacy, users can trust that their personal information will be handled confidentially and securely. By fostering a sense of community, the application can also connect users with support networks, offering peer support and opportunities for shared experiences. Features such as forums, chat functionalities, and virtual support groups create a safe and inclusive space for individuals to connect, seek advice, and find solace in others who may be going through similar challenges. It is important to note that while a mental health companion application can be a valuable tool, it should not replace professional mental health care. Instead, it should be seen as a complement to traditional therapy and counseling services, serving as a support system that encourages users to seek appropriate help when needed. In conclusion, a well-designed mental health companion application has the potential to

positively impact the lives of individuals struggling with mental health issues. By providing accessible resources, personalized support, and fostering a sense of community, this application can contribute to improving overall mental well-being and help individuals lead healthier and more fulfilling lives.

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