

RECOMMENDATION TO USER FOR STRESS

Mrudula Saravane , Bhagyashri Dhakne , Aditya Sutar , Samiulla Shaikh ,

Prajwal Narke,Pooja more

(Department of Computer Engineering, Dr. D. Y. Patil Polytechnic, Kolhapur, Maharashtra. Email: mrudulasaravane0506@gmail.com)

²(Department of Computer Engineering, Dr. D. Y. Patil Polytechnic, Kolhapur, Maharashtra. Email: bhagyashrimahesh18052022@gmail.com)

³(Department of Computer Engineering, Dr. D. Y. Patil Polytechnic, Kolhapur, Maharashtra. Email: adityasutar5173@gmail.com)

⁴(Department of Computer Engineering, Dr. D. Y. Patil Polytechnic, Kolhapur, Maharashtra. Email: narakeprajwal@gmail.com)

(Department of Computer Engineering, Dr. D. Y. Patil Polytechnic, Kolhapur, Maharashtra. Email: shaikhsamiulla5577@gmail.com)

Abstract:

Mental health issues such as stress, anxiety, and depression are growing concerns in today’s fast-paced world. Many individuals face challenges in accessing professional mental health support due to stigma, cost, or limited availability of services. To address this gap, Dr.Mine is developed as a comprehensive mental health web-app with a personalized recommendation system.

The app offers a holistic approach to emotional well-being, combining features such as mood-based recommendations, secure journaling, guided meditations. These features provide users with immediate emotional support and tools for long-term self-reflection. The recommendation engine curates personalized content, including music, books, and movies, to enhance users’ emotional states.

Keywords — stress, anxiety, and depression

I. INTRODUCTION

This document is a template. An electronic copy can be downloaded from the conference website. For questions on paper guidelines, please contact the conference publications committee as indicated on the conference website. Information about final paper submission is available from the conference website. Dr.Mine is an innovative mobile application created with the mission of making mental well-being as natural and essential as brushing your teeth. It's designed to be your personalized companion, guiding you through

life’s emotional ups and downs. Dr.Mine understands that emotional health is a crucial part of overall well being, and it’s here to provide support at every step of the way. Whether you’re feeling

When stress feels overwhelming, Dr.Mine offers stressed, anxious, or simply looking for a mood boost, Dr.Mine has got you covered.

a soothing oasis with guided meditation sessions and calming nature soundscapes to help you relax and melt away tension. If you’re craving a mood lift, the app transforms into your personal entertainment concierge, curating playlists that elevate your spirit and suggesting uplifting movies or books that spark joy and inspiration.

II. WORKING.

1. Rising Demand for Digital Mental Health Solutions:

Over recent years, there has been a growing recognition of mental health as an essential aspect of well-being, with an increasing number of individuals seeking accessible resources for stress management, emotional support, and self-improvement.

The global increase in stress and mental health challenges—especially highlighted by the COVID-19 pandemic—has created a strong demand for mental health support tools that are available outside traditional clinical settings.

The rise of remote work, social isolation, and heightened societal pressures have further underscored the need for digital solutions that can provide emotional support and resources for maintaining mental wellness

on-the-go.

With the increasing use of smartphones, digital platforms have become an essential medium for reaching a

wider audience, especially those unable to access in-person counseling or therapy due to financial or logistical barriers.

2. Existing Solutions and Gaps:

Many mental health apps like Headspace and Calm have become popular, focusing on meditation, therapy

connections, and stress management. However, these solutions often lack comprehensive, personalized

III. LITERATURE SURVEY.

Related Work:

Dr.Mine aspires to be a comprehensive mobile application empowering users to navigate the emotional tides

of life. This system study delves into the app's intricate web of components, their interactions, and potential

areas for improvement. The user interface serves as the gateway to Dr.Mine, offering an intuitive layout for

accessing features like personalized recommendations, meditation modules, and journaling. Behind the

scenes, the Recommendation Engine acts like a smart assistant, analyzing the user's chosen mood and

leveraging a vast library of curated content (music playlists, movie/book information) to generate personalized recommendations. The Content Management System (CMS) functions as Dr.Mine's content

library, managing the ever-expanding collection of resources used for recommendations. Integrating with

external services like music streaming platforms or book databases can further expand this library

(optional). The integration of AI and machine learning algorithms within the recommendation engine is

another cutting-edge aspect, enhancing Dr.Mine's ability to understand the user's emotional state and provide content that aligns with their mental wellbeing needs. As Dr.Mine evolves, incorporating more real

time data and user feedback will further enrich the recommendation system and make the app more adaptive to diverse emotional needs.

Existing System:

While the mental wellness app market offers tools like meditation (e.g., Headspace, Calm),

Dr.Mine carves its

niche by offering a more comprehensive approach. Dr.Mine goes beyond simply providing meditation or

relaxation tools by integrating personalized recommendations, journaling, and mood tracking, all within an

accessible and user-friendly interface. The app is designed not just to be a momentary escape, but to offer

long-term support through various features aimed at improving emotional resilience and self-reflection. By

recognizing the uniqueness of each user's emotional journey, Dr.Mine can provide a tailored experience,

making it stand out in an increasingly crowded market. Its combination of mood-based recommendations,

journaling, and guided support for emotional well-being positions Dr.Mine as a valuable tool for users

seeking an integrated approach to mental health.

Problems of Existing System:

Limited Scope: Existing apps like Headspace focus mainly on meditation. These apps, while effective for

relaxation, don't provide a comprehensive set of tools that address the full spectrum of emotional well-being.

Users are often left searching for other resources to manage stress, track moods, or foster self-reflection,

creating a fragmented experience.

III. METHODOLOGY

Proposed Methodology:

• Requirement Analysis:

User Research and Needs Assessment: Conduct surveys and interviews to understand user needs for mental

health support, focusing on features such as mood tracking, content recommendations, and other emotional support tools. Additionally, explore the barriers that users may face when seeking mental wellness resources

and identify any gaps in existing digital solutions.

Feature Specification: Based on research findings, identify essential features such as journaling, personalized

recommendations, and mood tracking, as well as any optional components like reporting and analytics for

tracking user progress or identifying common trends in mood changes over time. Understanding these aspects will also help create a more robust and adaptable platform.

• System Design:

Architecture Design: Develop a modular architecture with separate components for the user interface,

content management, journaling, and data storage. Ensure scalability to accommodate future enhancements,

such as the addition of new features or third-party service integrations. The modular design will allow for

flexibility in evolving the app and adding features based on user feedback and industry trends.

Data Privacy and Security: Incorporate advanced security protocols, including data encryption, access control, and compliance with privacy regulations (e.g., GDPR, HIPAA), to ensure user data is securely

managed. It's critical that user privacy is prioritized, especially since mental health data is highly sensitive, and maintaining trust is paramount to the app's success.

• Development and Integration:

Frontend Development: Design the user interface using HTML, CSS, and JavaScript to ensure an intuitive,

user-friendly experience. Key features will include mood selection, journaling space, personalized content

display, and intuitive navigation. The interface should be designed to be simple yet engaging, ensuring ease

of use for individuals of all technical skill levels.

Backend Development: Implement the backend using Python to handle user requests, manage data, and

integrate with third-party APIs (e.g., for music or book recommendations). The backend will also need to

handle complex algorithmic processing for personalized recommendations, mood-tracking functionality, and

seamless integration with external services.

Recommendation Engine: Create an algorithm that processes user-selected moods and generates personalized content recommendations by accessing a curated library of media (music, books, movies). This

engine should be adaptive and improve over time, leveraging machine learning to refine content suggestions based on user interactions and feedback.

Problem Definition:

Mental health issues, including stress, anxiety, and depression, are becoming increasingly prevalent, but

many individuals face barriers to accessing professional support due to factors like stigma, cost, and limited

availability of mental health services. While traditional mental health support is crucial, there is also a

growing demand for accessible, digital solutions that can provide emotional support and promote mental

well-being on a daily basis. Digital solutions can offer a level of anonymity and flexibility that traditional

therapy cannot always provide, addressing gaps in accessibility and affordability.

Objectives of the Problem Definition:

To provide users with a digital mental wellness tool that is accessible, intuitive, and supportive—enabling

users to manage their mental health in a convenient, personalized manner, without the need for in-person

appointments or specialized tools.

To develop a platform that combines various mental health self-reflection and emotional guidance tools—

including mood tracking, personalized content recommendations, and journaling features—in one convenient app, reducing the need to use multiple disparate applications.

To provide personalized recommendations and encouragement for self-care practices—through features like

customized music playlists, book suggestions, and mindfulness exercises, enhancing the emotional well being of users based on their specific needs and moods.

To reduce barriers to mental health care—by providing a platform that can be accessed by anyone,

regardless of location, providing users with a readily available resource for emotional support and mental

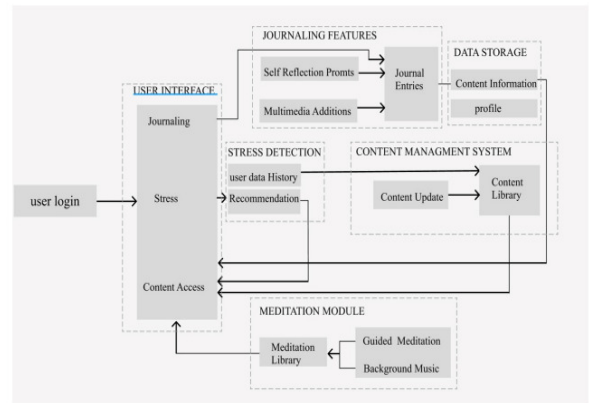
health management.

To increase engagement through personalized, adaptive features—by continuously learning from user

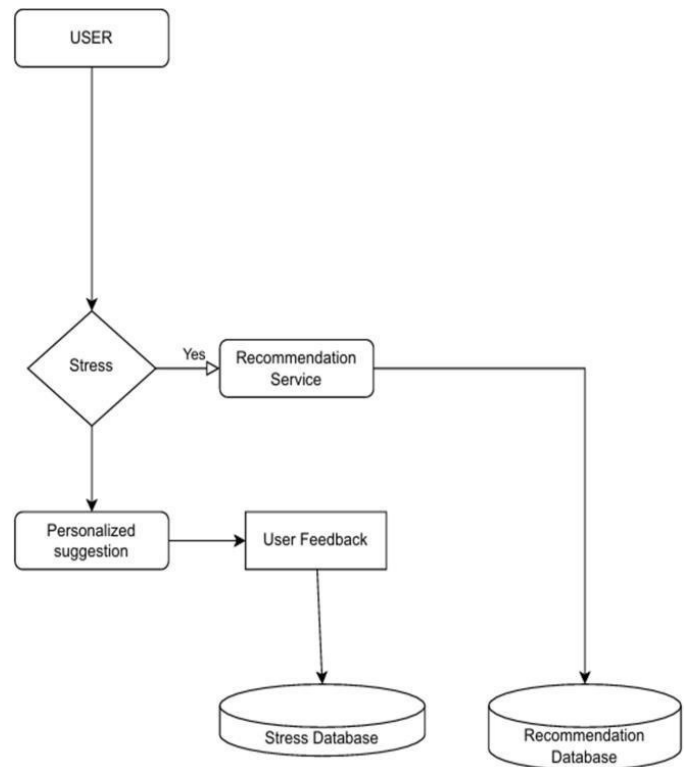
interactions and feedback, ensuring that Dr. Mine

grows alongside the needs of its users and provides increasingly relevant content as it evolves

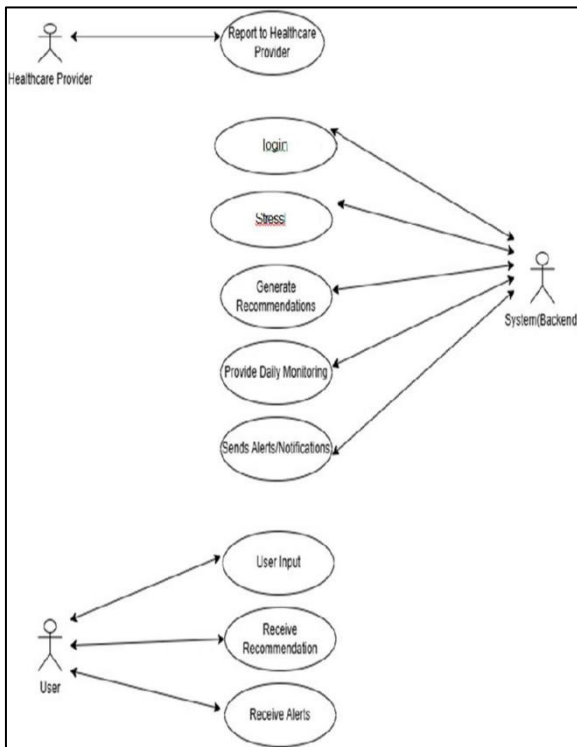
System Design



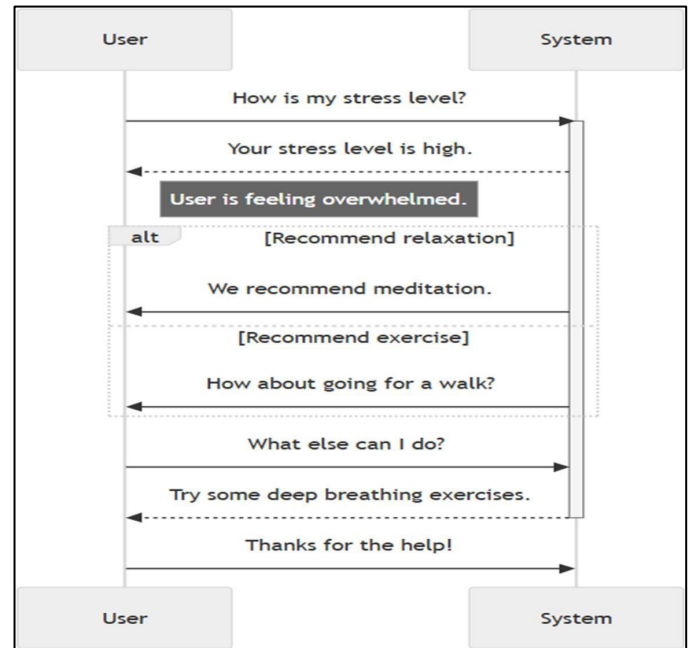
DFD 1. Level 0 DFD



2. Use Case Diagram

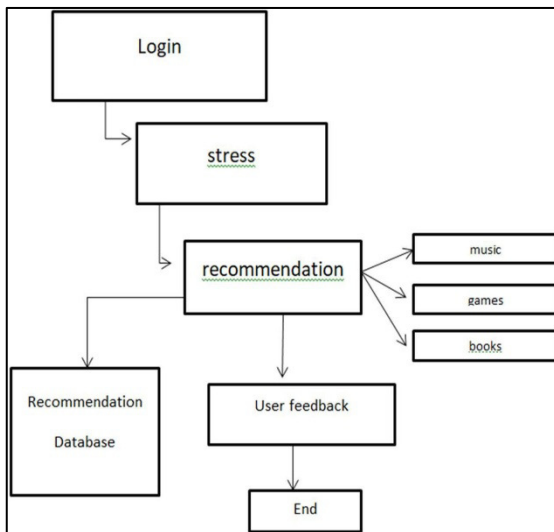


Sequence Diagram



3.

4. BLOCK DIAGRAM



IV. Software requirement

Technology	Purpose
HTML	Structure and layout of web pages.
CSS	Styling and design of the web pages.
JavaScript	Dynamic content manipulation, event handling, and logic.
Git	Version control and collaboration.
VS Code/Sublime Text	Code editing and development.
Google Chrome/Firefox	Testing and debugging the application.

V. ACTION PLAN

Duration	Activities carried out
24/07/24 - 31/07/24	Research on various project
16/08/24 - 25/08/24	Finalize the Project
3/09/24 - 11/09/24	Requirement Analysis
21/08/24 - 29/09/24	Discussing their key components and functionalities
8/10/24 - 15/10/24	User Interface and Experience (UI/UX) Research
16/10/24 - 20/10/24	Event Management Features
21/10/24 - 25/10/24	front-end development
3/11/24 - 07/11/24	Finalization and Documentation

VI. CONCLUSIONS

This project successfully achieved its objectives, enhancing our technical skills and problem-solving abilities. With the guidance of our mentors, we overcame challenges and developed a functional system. While the project meets its goals, there is potential for further improvements. The knowledge gained will be invaluable for future endeavors.

ACKNOWLEDGMENT

The successful completion of this project would not have been possible without the invaluable guidance and support of many individuals. I am deeply grateful to everyone who contributed to this endeavor.

First and foremost, I extend my sincere gratitude to our project guide, Mrs. P. P. More, for her keen interest in our work and for providing continuous guidance throughout the project. Her valuable insights and support played a crucial role in the development of this system.

I would also like to express my heartfelt appreciation to all the teaching staff of the Computer Engineering department for their constant encouragement, assistance, and motivation.

Their knowledge and support have been instrumental in helping us achieve our goals and successfully complete this project.

REFERENCES

"Android Programming"
 [1]Author:R. S. Salaria
 [2]Topic Covered: Android application development, user interface design, database management, and integrating features into Android apps.
 [3]Description: This book provides a detailed introduction to Android programming, covering fundamental concepts, coding practices, and essential app functionalities, which is perfect for building a hotel dining app. The book is practical and designed for beginners and intermediate learners.
 [4]Link: <https://www.mypustak.com/>
 "MobileAppDevelopment withReactNative"
 [5]Author:Ravindra Babu
 [6]Topic Covered: React Native for building cross-platform mobile apps, UI design, mobile app performance, and integration of APIs.
 [7]Description: This book focuses on using React Native, a popular framework for building apps for both Android and iOS with a single codebase. It will be useful if you're looking for cross-platform development for your dining app.
 [8]Link: <https://www.freelancer.es/>
 "Mobile App Security Testing"
 [1]Author: S. K. Soni
 [2]Topic Covered: Mobile app security, data encryption, secure user authentication, and secure communication.
 [3]Description: Security is a critical aspect of any application, particularly when dealing with user data. This book covers how to secure mobile apps, including Android/iOS apps, through encryption, authentication.
 [4] Link:<https://www.ibm.com/Biography>
 [5] Mobileapp development(Android/iOS)
 [6] UI/UXdesignand prototyping
 [7] Database management and backend development
 [8] Payment gateway integration
 [9] Problem-solving and debugging
 [10] Project documentation and reporting
 [11] Presentation and communication