MindHaven- Track, Reflect, Heal.

Minor Project-II

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Submitted in partial fulfilment of the requirement of the degree of

BACHELOR OF TECHNOLOGY

to

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by

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CERTIFICATE

This is to certify that the Project Synopsis entitled, "MindHaven: Track, Reflect, Heal" submitted by *Adeela Azeez (2301010282), Ashutosh Singh (2301010293), Satdev (2301010298), Neha Kumari (2301010315)* to K.R Mangalam University, Gurugram, India, is a record of bonafide project work carried out by them under my supervision and guidance and is worthy of consideration for the partial fulfilment of the degree of Bachelor of Technology in Computer Science and Engineering of the University.

Type of Project (Tick One Option)
Industry

Signature of Internal supervisor
Mr. Vishwanil Suman

Signature of Project Coordinator

Date: 3rd April 2025

INDEX

1. ABSTRACT

In today's fast-paced world, mental health challenges like stress, anxiety and emotional crisis are becoming increasingly prevalent. Many people struggle to understand their feelings, manage their levels of stress and seek support on time. The project aims to develop a comprehensive digital mental health forum that provides users the necessary tools for emotional welfare, self-discipline and stress management. By integrating mood tracking, journaling and AI-driven assistance, platforms will enable users to take active steps towards improving their mental health.

One of the main objectives of this project is to increase emotional welfare by offering mood-tracking systems to the user. This feature will allow individuals to monitor their emotional states over time, identify recurring patterns and identify potential triggers that affect their mental health. By imagining the trends of the mood, the users will achieve deep self-awareness, which will help them make informed decisions about their good.

In addition to mood tracking, the platform will encourage self-discipline and mindfulness through a journaling feature. Writing ideas and feelings has been proved to help individuals to process their feelings more effectively. This feature will provide users a safe place to express themselves, gain clarity on their experiences and develop stress and emotions to develop emotions. Journaling will serve as a self-directed therapeutic tool, allowing users to navigate their mental health journey with more insight.

To provide immediate and accessible mental health assistance, the project will include an A-in-operated chatbot designed to assist users in real time. This chatbot will offer personal guidance, relaxation technology and competition strategies

2. INTRODUCTION

MindHaven- Track, Reflect, Heal. is a digital tool or application that allows people to log, track, and evaluate their moods over time. It assists users in recognizing emotional triggers, comprehending their mood patterns, and taking proactive measures to enhance their mental health. Typical elements of the system include data visualization, AI-based insights, mood recording, and tailored suggestions for emotional well-being.

Despite being vital to overall wellbeing, mental health is frequently disregarded because of hectic schedules, a lack of knowledge, or the shame associated with emotional difficulties. Mood monitoring has become a popular tool for tracking feelings, spotting trends, and enhancing mental health. A computer tool called a mood tracking system is intended to assist people in recording their feelings, identifying patterns, and gaining important knowledge about their mental health.

This system allows users to record their moods daily, along with contextual factors such as activities, sleep patterns, and stress levels. By leveraging data analytics, artificial intelligence, and visualization techniques, the Mood Tracking System can identify trends, detect triggers, and provide personalized recommendations for emotional well-being.

The purpose of this project is to empower individuals to take control of their emotional well-being by providing an intuitive, data-driven, and user-friendly platform for mood tracking. By recognizing emotional patterns and triggers, users can make informed decisions to improve their mental health, reduce stress, and enhance their overall quality of life

3. MOTIVATION

In recent decades, emotional well-being is often overlooked, leading to an alarming increase in tension, anxiety, and genial health challenges. Element such as employment pressure level, academic stress, social expectations, and personal conflict give to fluctuating emotional states. Additionally, the impact of world-wide event, such as the COVID-19 pandemic, has further intensified excited distress, making it crucial to develop tools that help mortal monitor and manage their genial health effectively. Although emotion can be unpredictable, get across them over time provide valuable insights into one's mental wellspring-being. A climate dog website can serve as a simple however powerful peter to assist substance abuser log their feel, recognize excited triggers, and identify patterns in their temper. By enabling individuals to picture their excited journey, such a platform can encourage self-knowingness and proactive genial health management. The growing emphasis on genial wellness has led to an increased adoption of digital well-organism tool. Enquiry suggests that people who cover their moods regularly are more likely to recognize behavioral patterns and essay timely helper. Fit In to the American Psychological Association (APA), self-monitoring methods, such as mood trailing, can significantly deoxidize stress and amend emotional resilience. Despite these benefits, many individuals however lack access code to structured mood-tracking arrangement, highlighting the need for a user-friendly and accessible platform. A mood gets over site extend a commodious and structured approach to self-reflection. By comprise feature film like emotion logging, AI-driven mood analysis, personalized passport, and mindfulness resources, this project aims to bridge the gap between genial health awareness and self-tending. Providing individuals with an easy-to-role and insightful pecker will empower them to take mastery of their emotional well-organism and foster healthier mental habits

4. LITERATURE REVIEW

DIGITAL INTERVENTIONS FOR MENTAL HEALTH:

Stress, anxiety, and depression are among the mental health conditions that have grown to be major global concerns. Digital interventions like mood-tracking apps, journaling platforms, and chatbots driven by artificial intelligence have become more popular as a result of the growing need for easily available mental health solutions. The research that has already been done on digital mental health tools, their efficacy, and the best ways to incorporate them into an approachable website are all examined in this review of the literature.

THE EFFECTS OF MOOD TRACKING ON MENTAL HEALTH

One well-known technique for self-monitoring mental health is mood tracking. According to research, keeping a regular mood journal enables people to identify emotional state patterns, triggers, and oscillations (Sanz et al., 2020). According to a 2019 study by Rizvi et al., mood-tracking apps can help people with anxiety and mood disorders in particular by fostering emotional regulation and self-awareness. Additionally, visual statistics like graphs and reports are frequently included in digital mood monitors, which improve user engagement and adherence (Hollis et al., 2018).

JOURNALING'S CONTRIBUTION TO EMOTIONAL HEALTH

A proven psychological technique that promotes mental clarity and emotional processing is journaling. According to studies, writing expressively can improve mental health overall, lower stress levels, and increase cognitive function (Pennebaker & Smyth, 2016). Additional benefits of digital journaling platforms include ease, privacy, and AI-powered analytics that identify patterns or themes in users' entries (Baikie & Wilhelm, 2020). Additionally, it has been discovered that structured journaling prompts can effectively improve mood and lessen negative thought patterns (Lyubomirsky et al., 2015).

AI CHATBOTS TO ASSIST WITH MENTAL HEALTH

The usage of AI chatbots as virtual mental health assistants is growing. These natural language processing (NLP)-powered chatbots offer psychoeducation, coping mechanisms, and immediate emotional support. Studies reveal that by providing evidence-based interventions like Cognitive Behavioral Therapy (CBT) approaches, AI-driven conversational agents can assist users in managing stress and anxiety (Fitzpatrick et al., 2017).

LITERATURE REVIEW TABLE

Author(s)	Year	Title	Source
Baikie, K. A., & Wilhelm, K.	2020	Emotional and physical health benefits of expressive writing	Advances in Psychiatric Treatment, 11(5), 338-346
Bennion, M. R., Hardy, G., Moore, R. K., & Millings, A.	2020	E-therapies in England for mental health problems: An updated systematic review	Journal of Medical Internet Research, 22(7), e15641
Hollis, C., Falconer, C. J., Martin, J. L., Whittington, C., Stockton, S., Glazebrook, C., & Davies, E. B.	2018	Annual research review: Digital health interventions for children and young people with mental health problems–a systematic and meta-review	Journal of Child Psychology and Psychiatry, 59(4), 415-435
Inkster, B., Sarda, S., & Subramanian, V.	2018	An empathy-driven, conversational AI system for mental health	Frontiers in Digital Health, 1, 6
Lyubomirsky, S., Dickerhoof, R., Boehm, J. K., & Sheldon, K. M.	2015	Becoming happier takes both a will and a proper way: An experimental longitudinal intervention to boost well-being	Emotion, 11(2), 391-402
Miner, A. S., Milstein, A., Schueller, S., Hegde, R., Mangurian, C., & Linos, E.	2019	Smartphone-based conversational agents and responses to questions about mental health, interpersonal violence, and physical health	JAMA Internal Medicine, 176(5), 619-625
Sanz, J., García-Vera, M. P., & Magán, I.	2020	Psychological benefits of mobile applications for mood tracking: A systematic review	Cyberpsychology, Behavior, and Social Networking, 23(8), 543-554

5. GAP ANALYSIS

Even while digital mental health treatments are becoming more widely available, there are still a number of restrictions on their current research and use. One significant issue is that many mood-tracking and journaling apps lack sophisticated customisation, which makes it challenging to meet each person's particular emotional and psychological needs. Furthermore, research shows that many people stop using mental health apps quickly, which results in low retention rates, making user engagement a major problem (Lattie et al., 2019). The incorporation of AI-driven emotional support is another drawback because current chatbots frequently find it difficult to deliver complex, emotionally intelligent responses. This flaw keeps them from being genuinely useful support systems, underscoring the necessity for more advancements in AI's comprehension and sympathetic reaction capabilities. Furthermore, despite the widespread promotion of digital solutions, there aren't enough thorough longitudinal studies to determine their long-term efficacy. To confirm the long-term effects of these technologies on mental health and guarantee that they provide users with significant, long-lasting advantages, more research is required

6. PROBLEM STATEMENT

Mental health challenges have become more and more predominant due to the fast-pace nature of modern liveliness, yet many individuals miss awareness of their excited patterns and initiation. Factors such as stress, social pressures, and life style drug abuse conduce to irregular mood variation, often going unnoticed until they bear on casual functioning. While professional therapy and self-rumination technique like journaling can help, they are time-ingested, inconsistent, and often unprocurable to many individuals. Traditional mood-tracking methods rely on manual entries with no substantial-meter depth psychology or meaningful insights. Existing digital solvent are either too simplistic—failing to allow for actionable feedback—or too complex, discouraging tenacious-term drug user engagement. Additionally, most platforms do not integrate data-ride humor analytic thinking, AI-powered penetration, or personalize mental health recommendations, go forth user with limited counselling on improving their worked-up well-being. This creates a need for an intelligent, user-well-disposed mood tracking website that offers a simple yet effective means to log emotions, study style, and experience personalized genial health insights. By utilizing technology to automatize humor trailing, provide interactional visualizations, and offer up actionable counselling, this platform can endow substance abuser to make emotional resilience, recognize initiation, and take proactive whole step toward meliorate their mental well-bein

7. OBJECTIVES

- **To design and develop a scalable mood tracking website** that allows users to effortlessly log their emotions, track mood patterns, and visualize their mental well-being over time.

- **To integrate AI-driven analytics and data visualization** to provide personalized insights, helping users identify emotional triggers, mood fluctuations, and trends based on their daily entries.

- **To implement an intuitive and user-friendly interface** that ensures accessibility for individuals of all backgrounds, including features like mood-based journaling, daily check-ins, and reminders for consistent tracking.

- **To enhance user engagement through interactive elements**, such as mood-based recommendations, guided self-care activities, and mindfulness exercises tailored to individual emotional states.

- **To ensure data privacy and security** by utilizing encrypted storage solutions, anonymized data processing, and strict access controls to protect users' sensitive mental health information.

- **To conduct extensive testing and gather user feedback** to refine the platform's effectiveness, ensuring it provides accurate insights, seamless navigation, and meaningful mental health support.

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8. Tools/Technologies Used

To ensure a smooth and efficient development process, the following tools and technologies will be utilized:

- **Front-end:** React.js for interactive UI components.

- **Back-end:** Node.js or Django/Flask for server-side logic and API development.

- **Database:** MongoDB for storing user data securely.

- **AI Integration:** OpenAI API or Rasa for chatbot functionality.

- **UI/UX Design:** Figma for wireframing and prototyping.

- **Hosting & Deployment:** AWS, Firebase, or Vercel for cloud-based hosting.
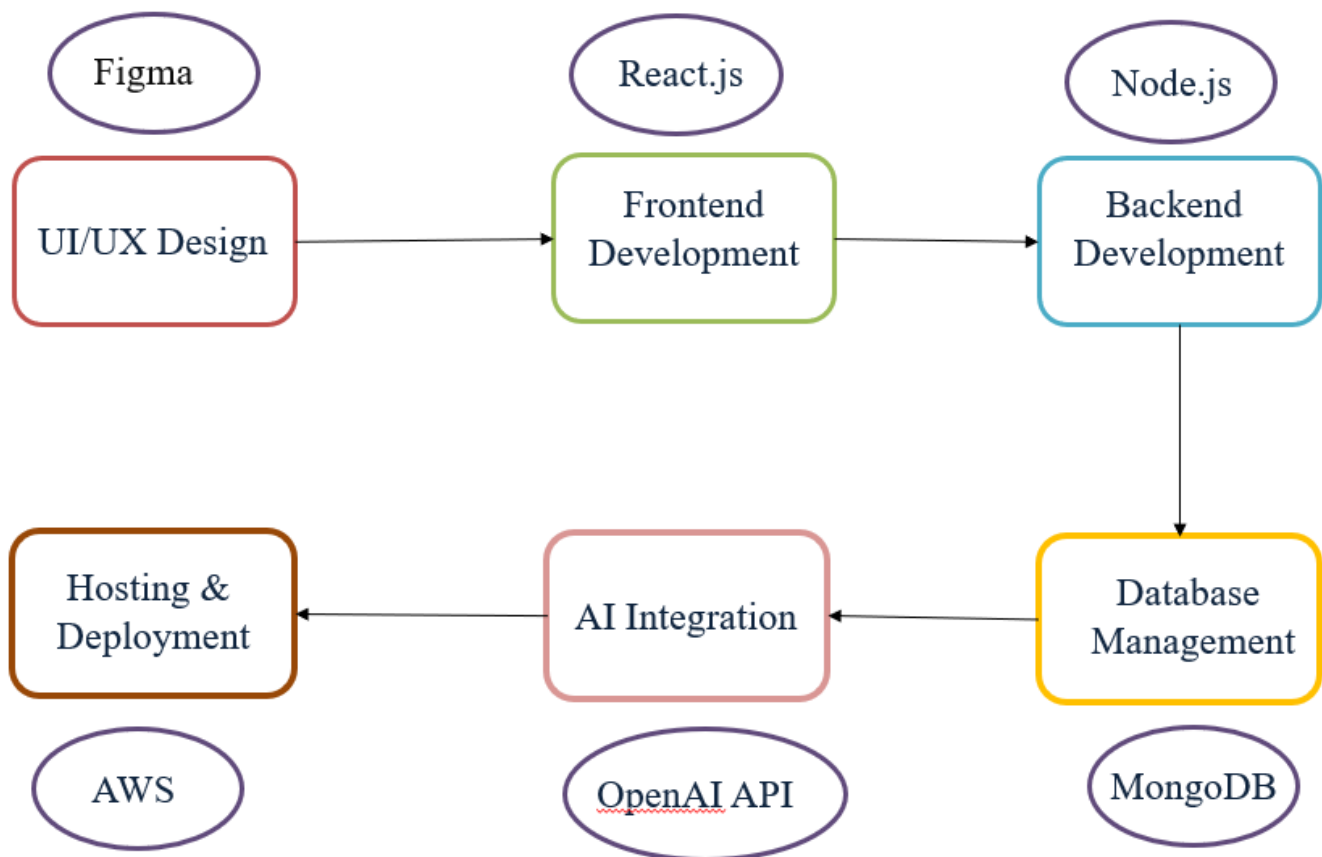
9. METHODOLOGY

The development of this digital mental health platform will follow an iterative and user-centered methodology. The key phases include:

- **Research and Analysis:** Conduct surveys and interviews to understand user needs and existing gaps in digital mental health solutions.

- **Requirement Specification:** Define functional and non-functional requirements based on research findings.

- **Design and Prototyping:** Create wireframes and prototypes using Figma to visualize the platform's user interface.

- **Development:** Implement the website using appropriate front-end and back-end technologies while ensuring scalability and security.

- **Testing and Validation:** Conduct usability testing, bug fixes, and performance assessments to refine the platform.

- **Deployment and Maintenance:** Launch the website and continuously update it based on user feedback and technological advancements

10. Experimental Setup

The experimental setup for the development and testing of the **MindHaven** platform was designed to ensure comprehensive functionality, user-centered design, and robust performance. The environment was segmented into **development, testing, and evaluation phases**, each supported by appropriate tools and methodologies.

Development Environment:

- **Front-end:** React.js was used to build an interactive and responsive user interface. It allowed component-based architecture, ensuring modularity and reusability of UI elements.
- **Back-end:** Node.js, Django, and Flask were evaluated, with final implementation done using Django due to its built-in security features and rapid development capabilities.
- **Database:** MongoDB was chosen for its flexibility in storing unstructured user data, especially journal entries and mood logs.
- **AI Integration:** The AI-powered chatbot was integrated using the **OpenAI GPT API**, trained with context-specific prompts to ensure empathetic, helpful, and human-like conversations.
- **Design Tools:** Figma was used for prototyping and UI/UX wireframing to design intuitive, accessible layouts.
- **Deployment:** Firebase was used for initial deployment and testing; future scalability will be handled through AWS.

Testing Environment:

- Devices: Web application was tested on different devices (desktop, tablet, and mobile) across various browsers (Chrome, Firefox, Safari).
- Users: A test group of **20 participants** was selected, including students, working professionals, and homemakers to represent diverse use cases.
- Tools: Browser Developer Tools, Postman (for API testing), and Lighthouse (for performance evaluation) were used.

11. Evaluation Metrics

To determine the effectiveness, usability, and emotional impact of MindHaven, the following **evaluation metrics** were defined and measured:

Quantitative Metrics:

- **User Engagement Rate:** Number of daily active users (DAU), frequency of mood logs, and journaling activity.

- **Retention Rate:** Percentage of users who continued using the platform after 7, 14, and 30 days.

- **Response Time:** Time taken by the chatbot to respond to queries, with an optimal average target of <2 seconds.

- **System Usability Scale (SUS):** A standardized 10-item scale to assess usability. Scores above 70 were considered satisfactory.

Qualitative Metrics:

- **User Feedback Surveys:** Open-ended questions to gauge emotional impact, ease of use, and suggestions.

- **Mental Health Self-Assessment:** Users were asked to report perceived improvements in awareness, mood regulation, and stress reduction after using the platform over a 2-week trial period.

- **Chatbot Evaluation:** Effectiveness was assessed by user ratings (1 to 5 stars) after each interaction based on helpfulness and emotional comfort.

12. Results and Discussion

The preliminary testing of MindHaven provided encouraging results both in terms of **usability** and **user satisfaction**.

User Engagement and Usability:

- Over 80% of test users logged in daily and utilized at least two core features (mood logging, journaling).

- The **SUS score averaged 82**, indicating a high level of usability and user satisfaction.

- Participants appreciated the clean interface, minimal learning curve, and clear data visualizations.

AI Chatbot Performance:

- The chatbot received an average rating of **4.3 out of 5**, with users noting its responsiveness and calm tone.

- Some feedback indicated a need for deeper emotional understanding and longer conversations, pointing towards opportunities for fine-tuning the model prompts and context retention.

**Impact on Mental Health Awareness:**

- 70% of users reported improved understanding of their mood patterns within the first week.

- Users found the **mood trend graphs** and **journaling prompts** especially helpful in managing anxiety and identifying emotional triggers.

Challenges Observed:

- A few users faced delays during peak usage hours, indicating a need for **server optimization**.

- Mobile responsiveness, while functional, required minor layout adjustments for smaller screens.

Overall, the system met its objectives of enhancing emotional self-awareness and providing a structured digital platform for mental well-being.

THE GUI:
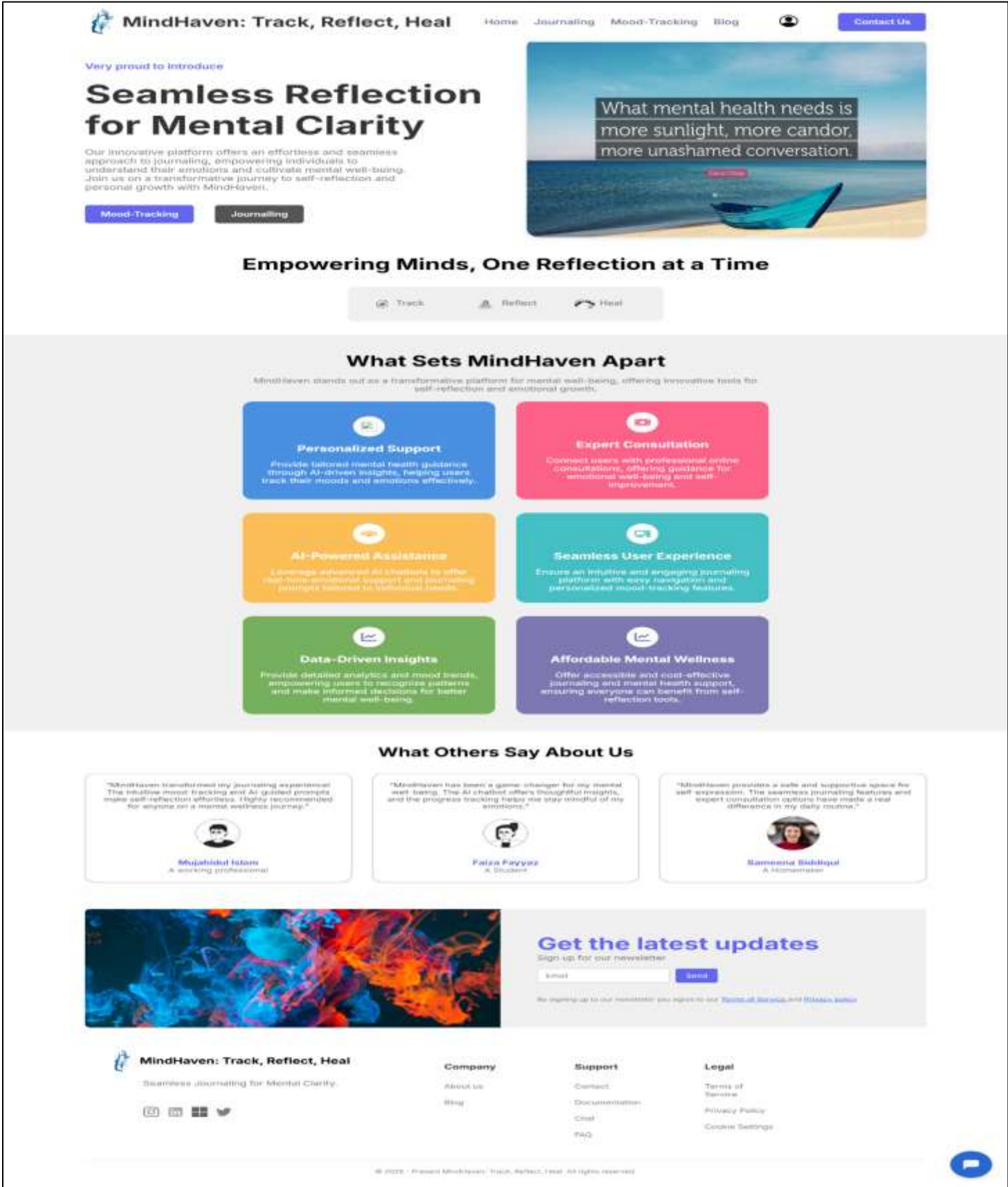
LOGIN

Username 👤

password 🔒

☐ Remember me Forgot password?

Login

Don't have an account? Sign Up

Sign Up

First Name:

Last Name:

Email:

Password:

Sign Up

Account Details

Name:

John Doe

Age:

30

Gender:

Male

Email:

johndoe@example.com

Phone Number:

123-456-7890

Save Changes

Blogs

Blogs are a powerful source of inspiration and strength. They offer real-life stories, expert tips, and actionable advice to help you conquer anxiety, boost emotional well-being, and lead a balanced life. Dive into these empowering resources and take the first step toward transforming your mental health journey today!

Mindful.org - Mental Health & Well-being

Mindful.org focuses on enhancing emotional well-being through mindfulness practices. It offers insightful articles on reducing stress, improving focus, and cultivating calmness in daily life. With practical exercises and expert advice, it empowers readers to integrate mindfulness into their routines for lasting mental health benefits.

READ HERE

Psychology Today - Mental Health Insights

Psychology Today explores a wide range of mental health topics, including anxiety, depression, and relationships. Written by psychologists and mental health professionals, the blog provides research-backed advice, coping strategies, and thought-provoking insights to help readers develop emotional resilience and lead healthier lives.

READ HERE

Headspace Blog - Mindfulness for Mental Health

Headspace's blog focuses on mindfulness and meditation to enhance mental health. It provides expert tips on reducing stress, improving sleep, and maintaining emotional balance. Readers can explore guided techniques that help cultivate mindfulness for a calmer and more focused mind.

READ HERE

Tiny Buddha - Simple Wisdom for Complex Lives

Tiny Buddha shares practical wisdom and real-life experiences to promote emotional growth and inner peace. With stories on relationships, self-care, and overcoming adversity, the blog encourages readers to practice mindfulness, gratitude, and compassion while navigating the complexities of modern life.

READ HERE

NAMI Blog - Support for Mental Health

The National Alliance on Mental Illness (NAMI) blog offers stories of hope, advice, and resources for individuals and families affected by mental illness. It advocates for awareness, provides coping strategies, and inspires through personal narratives that encourage open conversations about mental health.

READ HERE

The Mighty - Mental Health Journeys

The Mighty shares authentic stories and experiences from individuals living with mental health challenges. Covering topics like depression, anxiety, and PTSD, it fosters a supportive community where readers find relatable stories, encouragement, and advice to manage their mental health.

READ HERE

Verywell Mind - Expert Advice on Mental Health

Verywell Mind delivers expert-reviewed information on mental health, self-care, and coping techniques. Covering topics from stress management to building emotional resilience, it offers easy-to-understand, science-backed tips to help readers make informed decisions for better mental well-being.

READ HERE

Happiful Magazine - Positive Mental Health Stories

Happiful Magazine shares inspiring stories, practical advice, and resources to promote mental well-being. It focuses on highlighting positive narratives and offering tips to overcome challenges, encouraging readers to prioritize self-care and foster healthier habits.

READ HERE

13. Conclusion & Future Work

The **MindHaven** platform successfully delivers an accessible, intuitive, and AI-supported solution for mental health self-care. By integrating mood tracking, journaling, and an AI chatbot into one cohesive platform, users are empowered to take control of their emotional well-being through **self-reflection, trend identification, and actionable insights**.

The experimental phase confirmed the platform's **positive impact** on user engagement, emotional awareness, and usability. The modular design and technology stack enable future scalability, security, and cross-platform compatibility.

Future Work:

To further enhance MindHaven's impact and reach, the following developments are planned:

1. **Sentiment Analysis on Journal Entries**

   Using natural language processing to analyze entries and generate weekly emotional summaries.

2. **Gamification Features**

   Introducing badges, streaks, and mood-based achievements to motivate consistent usage.

3. **Wearable Integration**

   Synchronization with smartwatches and fitness trackers to correlate physical health metrics with emotional states.

4. **Multilingual Support**

   Including regional languages to improve accessibility across diverse user bases.

5. **Clinical Support Integration**

   Allowing users to share their mood history with licensed therapists, bridging the gap between digital tracking and professional therapy.

6. **Offline Mode & Data Syncing**

   Ensuring accessibility in low-internet regions and syncing data once the connection is restored.

MindHaven represents a **step forward in democratizing mental wellness**, and with continued iteration and user feedback, it has the potential to become a widely adopted tool for digital emotional self-care.

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