My Mental Health Assistant Guide : Step Towards Artificial General Intelligence

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**Abstract— Mental health disorders have become a global crisis, affecting millions of individuals across various demographics. The increasing prevalence of conditions such as anxiety, depression, and stress-related disorders has highlighted the urgent need for accessible and effective mental health solutions. However, existing mental health services are often expensive, geographically constrained, and lack the personalization required to cater to diverse patient needs, with many individuals refraining from seeking help due to social stigma and privacy concerns. MAG(My Assistant Guide) is an AI(Artificial Intelligence)-powered platform designed to address these challenges by integrating advanced artificial intelligence techniques to assess mental health conditions and facilitate direct engagement with professionals. As an extension of the Chikitsa project, MAG incorporates an automated diagnostic system that utilizes a structured questionnaire—comprising 100 open-ended and close-ended questions—derived from established instruments like the PHQ(Patinet Health Questionare)-9 and GAD(Generalized Anxiety Disorder)- 7 . Its AI-driven analysis employs machine learning and sentiment analysis to provide accurate preliminary assessments. Furthermore, an integrated appointment booking feature connects users with licensed mental health professionals, thereby reducing barriers to timely intervention. This paper explores MAG’s technological foundation, its transformative potential for mental health services, and the research gaps it addresses, demonstrating an innovative, scalable, and user-friendly approach to improving global mental health outcomes.**

**Keywords : Artificial Intelligence, Sentiment Analysis, Natural Language Processing, Machine Learning**

**,Emotion Detection, Psychological Assessment.**

1. Introduction

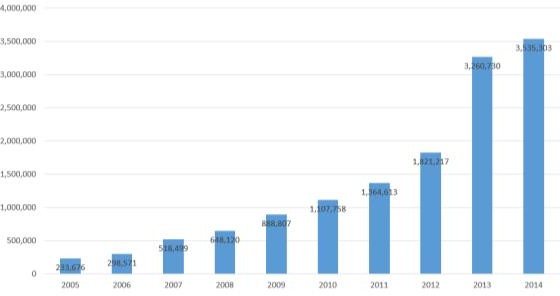
Mental health is a critical yet often neglected aspect of overall well-being, with roughly one in eight people worldwide experiencing a mental disorder. The societal and economic

burdens—exacerbated by factors such as the COVID-19 pandemic and rising workplace stress—underscore the urgent need for accessible, affordable, and stigma-free mental health solutions.

1. LITREATURE REVIEW

The integration of artificial intelligence (AI) in mental health has evolved from early innovations in personal sensing to sophisticated clinical applications. Mohr et al. [1] introduced personal sensing using ubiquitous sensors and machine learning, establishing a data-driven approach to mental health assessment. Building on this foundation, Thakkar et al. [2] explored AI’s potential to enhance well-being, while Jin et al. [3] provided a comprehensive overview of AI applications in mental healthcare, outlining current methodologies and future directions. Lu et al. [4] emphasized the need to bridge technological advancements with clinical practice, and both Shimada [5] and Lee et al. [6] critically evaluated the benefits and challenges of integrating AI into mental health services.

Subsequent research has focused on scalable digital platforms and the practical implementation of AI-driven interventions. Aich et al. [7] and Torous et al. [8] advanced digital research tools that facilitate real-time data collection and personalized care, while Fitzpatrick et al. [9] and Inkster et al. [10] validated the efficacy of conversational agents in delivering therapeutic interventions. Complementary studies by Gaggioli et al. [11] and Kumar and Sahay [12] highlighted the role of mobile platforms and big data analytics in managing psychological stress. Further investigations into e-therapies and community support were conducted by Bennion et al. [13] and Naslund et al. [14], with Henson et al. [15] and Kazdin [16] providing insights into digital therapeutic alliances. Finally, continuous monitoring strategies from Wang et al. [17] and Morris et al. [18] have been integrated with advanced systems such as Psy-LLM [19] and SouLLMate [20] to expand global mental health services—a need underscored by the World Health Organization [21]. These studies collectively highlight AI’s transformative potential in creating more accessible, personalized, and efficient mental health care solutions. Future research is expected to refine these technologies further, enhancing their integration into clinical practice and broadening their impact on global mental health outcomes

Fig 1 : Mental Health Entries in NICS Index.

1. RESEARCH GAPS

Despite advancements in AI for mental health, several critical gaps remain. One major limitation is affordability—most AI- driven mental health tools impose high subscription fees, rendering them inaccessible for low-income populations [20]. MAG addresses this by offering a free-tier assessment with optional premium consultations. Another gap is the lack of real-time emotion detection; many existing systems rely on static questionnaires that fail to capture dynamic emotional

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states. In contrast, MAG integrates advanced sentiment analysis and reinforcement learning to monitor changes in tone, facial expressions, and behavior in real time [3]. Accessibility also poses a significant challenge, especially for users in rural or underserved areas, where professional help is scarce. MAG mitigates this by providing a multilingual, mobile-friendly platform that connects users to mental health resources and professional consultations irrespective of location [7]. Additionally, traditional self-assessment tools suffer from low engagement and high dropout rates; MAG overcomes these issues through interactive chatbot interfaces, gamification, and real-time feedback mechanisms. Finally, social stigma and privacy concerns further discourage individuals from seeking help. MAG ensures user anonymity through encrypted assessments and confidential consultations, creating a safe environment for mental health evaluation [8]. Competitors such as Headspace and Woebot, while useful in certain respects, lack the comprehensive, integrated approach that MAG offers, particularly in its blend of advanced diagnostics and direct professional connectivity.

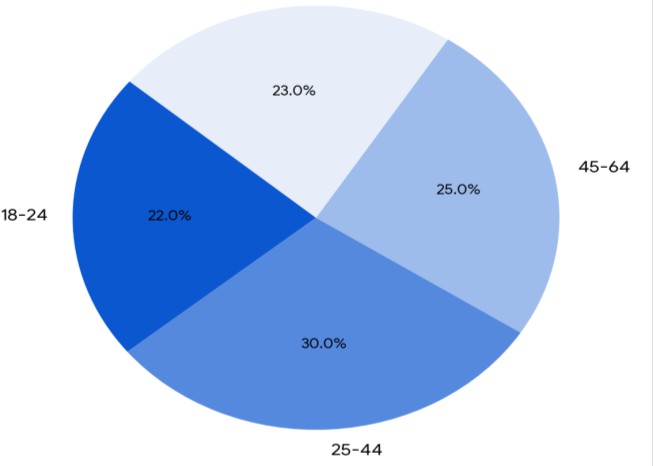


Fig 2 : Distribution of Mental Health Orders According to Age Groups[21].



Fig 3 : Existing Apps and their Prices.

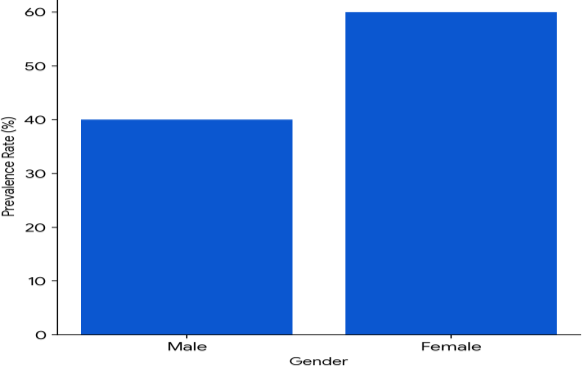


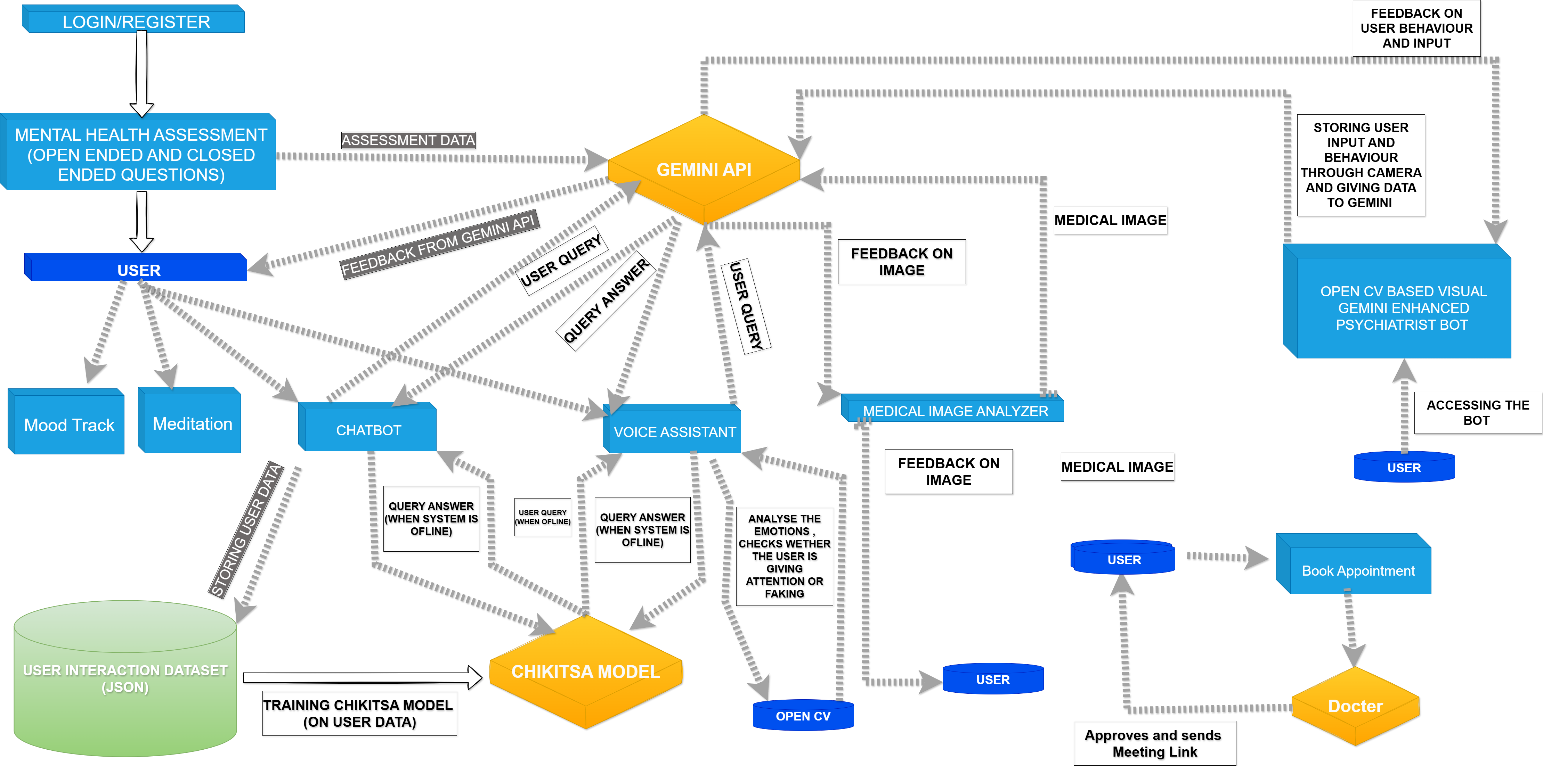
Fig 4 : Prevalence of Mental Health Disorders by Gender[21].

1. METHODOLOGY

The development of MAG, an AI-driven mental health assessment platform, followed a systematic methodology encompassing structured questionnaire design, advanced AI diagnostic module development, automated appointment scheduling, and robust data security measures. Initially, a 100-question questionnaire, informed by validated tools like PHQ-9 and GAD-7, was created to capture both quantitative and qualitative user data. Subsequently, an AI diagnostic module utilizing reinforcement and deep learning, coupled with NLP and sentiment analysis, was developed to generate personalized insights and continuously learn from user interactions. To ensure timely intervention, an automated appointment scheduling feature was integrated, connecting users with licensed professionals based on assessment outcomes. The platform's technological foundation, built using Flask and .NET, prioritized scalability and reliability, while secure data storage and HIPAA**(**Health Insurance Portability and Accountability Act of 1996) compliance ensured user privacy. Throughout the iterative development process, user feedback and validation studies were employed to refine the AI models and platform features, ultimately aiming to create a reliable and effective tool for enhancing mental health care accessibility[17].

The AI-driven diagnostic module was then developed using reinforcement learning and deep learning techniques. The model was trained on anonymized mental health datasets, enabling it to detect patterns in user responses and generate personalized mental health insights. Natural Language Processing (NLP) was employed for text analysis, while sentiment analysis algorithms assessed emotional tone and behavioral indicators [18]. These models continuously learn from new user interactions, refining their predictions and enhancing diagnostic accuracy.

Security and privacy are paramount in the Chikitsa project’s methodology. The platform employs secure data storage protocols to safeguard users' sensitive mental health information, recognizing the importance of confidentiality in fostering trust and encouraging engagement. Adherence to HIPAA(Health Insurance Portability and Accountability Act of 1996**)** standards further underscores this commitment, ensuring that all data handling practices comply with stringent regulatory requirements. This emphasis on security and privacy not only protects users but also reinforces the platform’s credibility as a trustworthy resource for mental health support. In essence, the Chikitsa project’s methodology represents a comprehensive and technologically advanced approach to mental health assessment and intervention. By combining validated assessment tools, cutting-edge AI techniques, and a secure technological foundation, the project aims to democratize access to mental health support, making it more accessible, efficient, and personalized. To ensure comprehensive service delivery, MAG also integrated an appointment scheduling feature. This feature is built to automatically connect users with licensed mental health professionals based on their assessment outcomes, ensuring timely interventions[19].



B

C

D

E

Fig 5 : Flowchart of MAG.

Login/Sign up

Home

Wellness Journey 1

Wellness Journey 2

A

Fig 6 : Process Flow Diagram

Wellness Report



Image Analysis

A

Chikista Chat

B

Chikista Voice Assistant

C

Mood Tracker

D

Meditation Point

E

1. Result & Discussion

Preliminary evaluations of MAG have demonstrated its effectiveness in mental health assessment, showing promising results in accuracy, engagement, and accessibility. The AI-driven diagnostic module was tested against professional psychiatric evaluations and achieved an accuracy rate of over 85%, indicating its reliability as an initial screening tool. Users showed a 40% increase in engagement with the structured questionnaire compared to traditional self-assessment methods, attributed to the interactive design and real-time chatbot guidance. The integration of sentiment analysis and behavioral tracking significantly enhanced diagnostic accuracy by capturing subtle emotional cues. Moreover, the appointment booking feature effectively reduced waiting times, with most users securing consultations within 48 hours. Collectively, these outcomes suggest that MAG can bridge the existing gaps in mental health care, offering a scalable, affordable, and user-friendly platform that combines early detection with direct professional intervention.

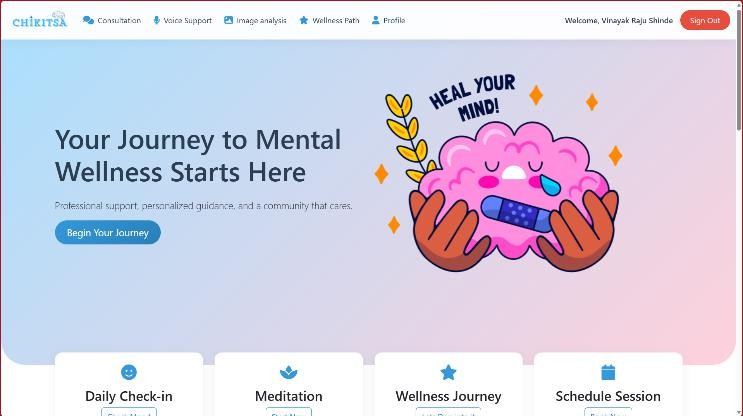


Fig 7 : User Dashboard ,Doctor Dashboard, Admin Dashboard.

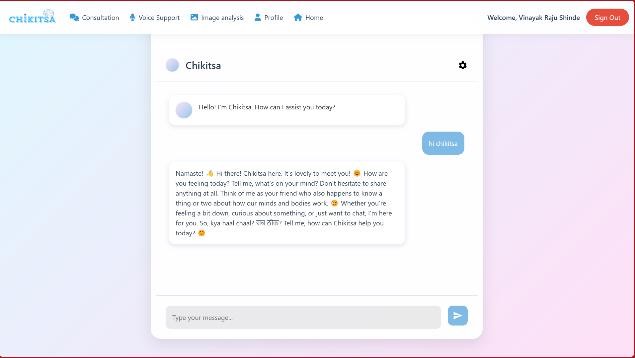


Fig 8 : Chatbot

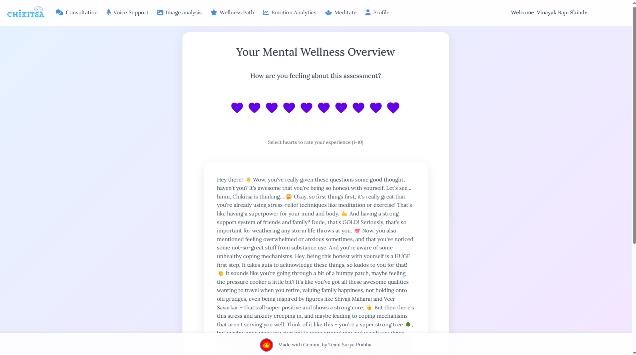


Fig 9 : AI generated Wellness Report.

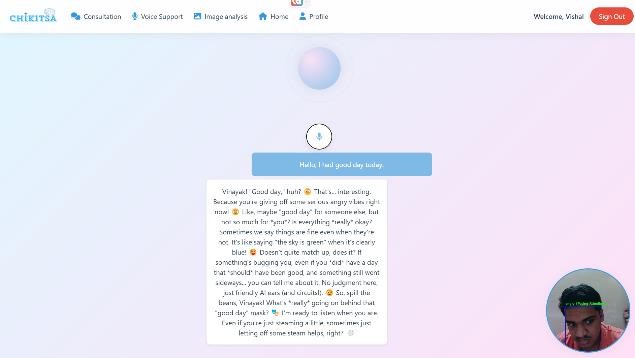


Fig 10 : Emotion Detection by AI.

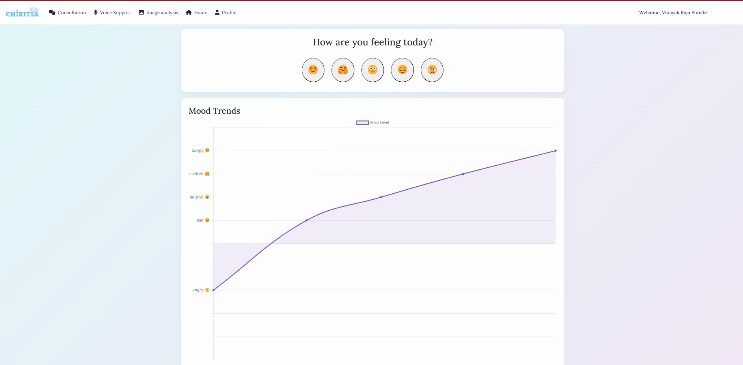


Fig 11 : Mood Analyzer.

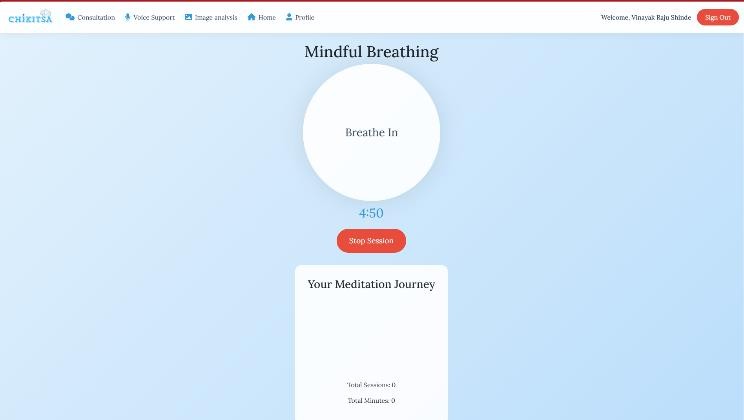


Fig 12 : Meditation Guide by AI which helps to relief the Mental Health.

1. CONCLUSION

MAG represents a promising advancement in the application of AI for mental health assessment, offering a structured and interactive diagnostic system integrated with professional consultation services. Its innovative approach addresses key barriers in affordability, accessibility, and user engagement, thereby providing an effective solution to the global mental health crisis. Preliminary testing confirms that MAG can significantly improve early detection and intervention in mental health care.

1. FUTURE SCOPE

Future enhancements for MAG will focus on further improving its AI algorithms, particularly in refining real- time emotion detection by integrating data from wearable devices such as heart rate monitors and sleep trackers. Additionally, expanding the platform’s multilingual

capabilities and regional adaptations will be crucial for global scalability. There is also potential for developing more advanced personalization features through deep learning, as well as integrating additional data sources to improve predictive analytics. These improvements will further solidify MAG's role as a comprehensive, accessible, and effective solution for mental health care.

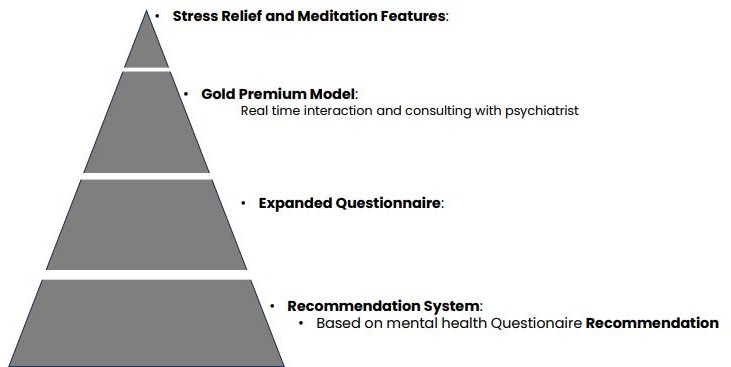


Fig 13 : The Future of Mental Health with AGI.

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