A MINI PROJECT REPORT

ON

“My Mental Health Assistant Guide : Step Towards Artificial General Intelligence”

Submitted in the partial fulfillment of the requirements for

The degree of

BACHELOR OF ENGINEERING IN COMPUTER ENGINNERING

submitted by

Nikhil Bhoir,05
Vinayak Shinde,63

Under the supervision of

Prof.Manjusha Deshmukh

Department OF Computer Engineering

Saraswati College of Engineering, Kharghar

(Affiliated to University of Mumbai)

(2024-25)

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ii. *To create an ambience that facilitates research, entrepreneurship and collaborations leading to emergence of innovators and future leaders.*

iii. *To develop a student-centric approach that inculcates moral, ethical values and leadership skills for holistic development.*

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Programme Outcomes

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2. Identify, formulate and analyze Computer Engineering Problems and derive conclusion using First Principle of Mathematics, Engineering Science and Computer Science.
3. Investigate Complex Computer Engineering problems to find appropriate solution leading to valid conclusion.
4. Design a software System, components, Process to meet specified needs with appropriate attention to health and Safety Standards, Environmental and Societal Considerations.
5. Create, select and apply appropriate techniques, resources and advance Engineering software to analyze tools and design for Computer Engineering Problems.
6. Understand the Impact of Computer Engineering solution on society and environment for Sustainable development.
7. Understand Societal, health, Safety, cultural, Legal issues and Responsibilities relevant to Engineering Profession.
8. Apply Professional ethics, accountability and equity in Engineering Profession.
9. Work Effectively as a member and leader in multidisciplinary team for a common goal.
10. Communicate Effectively within a Profession and Society at large.
11. Appropriately incorporate principles of Management and Finance in one's own Work.
12. Identify educational needs and engage in lifelong learning in a Changing World of Technology.

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Programme Specific Outcomes

1. Compute and evaluate intricate engineering problems in computer engineering such as cloud computing, real-time systems, networking, big data, intelligent systems, etc.

2. Plan and create dependable, secure, and cost-effective system and application software with developing software tools that are morally affordable.

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CERTIFICATE

This is to certify that the requirements for the mini project report entitled" **My Mental Health Assistant Guide : Step Towards Artificial General Intelligence***" have been successfully completed by the following students:*

Roll numbers	Name
05	Nikhil Bhoir
63	Vinayak Shinde

In partial fulfillment of ***Sem –VIII*** , **Bachelor of Engineering of Mumbai University in Computer Engineering** of Saraswati college of Engineering , Kharghar during the academic year 2024-25.

Prof.Manjusha Deshmukh
Internal Guide

External Guide

Prof.Sujata Bhairnalykar
Head of Department

Prof.Manjusha Deshmukh
Principal

Project Report Approval Sheet

This project report entitled **My Mental Health Assistant Guide : Step Towards Artificial General Intelligence** by Nikhil Bhoir-05, Vinayak Shinde-63 is approved for the partial fulfillment of Computer Engineering.

Examiners

1. _____

2. _____

Date: Kharghar

Place: 25/04/2025

Declaration

We declare that this written submission represents our ideas in our own words and where others' ideas or words have been included, We have adequately cited and referenced the original sources. We also declare that We have adhered to all principles of academic honesty and integrity and have not misrepresented or fabricated or falsified any idea/data/fact/source in our submission. We understand that any violation of the above will be cause for disciplinary actionby the Institute and can also evoke penal action from the sources which have thus not been properly cited or from whom proper permission has not been takenwhen needed.

Nikhil Bhoir

Vinayak Shinde

Date: 25/04/2025

Abstract

The project titled **" My Mental Health Assistant Guide : Step Towards Artificial General Intelligence "** is a web-based initiative developed to provide users with an anonymous, user-friendly, and professional platform to assess and improve their mental health. With a combination of a scientifically crafted questionnaire and a seamless appointment booking feature, the platform enables users to take proactive steps toward mental well-being. The increasing prevalence of psychological disorders like depression, anxiety, and stress—especially among youth and working professionals—highlights the importance of such systems. *Chikitsa* aims to serve as a digital bridge between those who need help and mental health professionals, reducing the impact of stigma and logistical barriers. The system supports three types of users: general users, doctors, and developers, ensuring dynamic system management and role-based access. Built using HTML, CSS, JavaScript for the frontend and PHP, MySQL for the backend, the system guarantees responsiveness, data privacy, and modular extensibility. This report explains the complete lifecycle of the Chikitsa project—from conceptualization to deployment—detailing all the engineering, design, and testing aspects involved.

Table of Contents

List of Abbreviations

MAG : Mental Health Assistant Guide
AGI : Artificial General Intelligence
AI : Artificial Intelligence
HCI : Human-Computer Interaction
UI : User Interface
UX : User Experience
UI/UX : User Interface / User Experience
DASS : Depression Anxiety Stress Scale
BDI : Beck Depression Inventory
GAD-7 : Generalized Anxiety Disorder 7-item Scale
WHO : World Health Organization
NIMHANS : National Institute of Mental Health and Neurosciences
HTML : Hyper Text Markup Language
CSS : Cascading Style Sheets
PHP : Hypertext Preprocessor
MySQL : My Structured Query Language
NHS : National Health Service (from cited literature)
LLM : Large Language Model

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Chapter 1

Introduction

1.1 General

Mental health, once a stigmatized topic, is now increasingly recognized as an essential component of overall well-being. With the rapid advancements in science and technology, the world is progressing in various fields, but the stress and pressure associated with fast-paced lifestyles, digital isolation, academic competition, and professional burnout are taking a toll on mental health. Issues such as anxiety, depression, stress disorders, and emotional instability are becoming alarmingly common, especially among youth and working individuals. Despite the severity and prevalence of these conditions, they are often misunderstood, ignored, or trivialized by society. In India, particularly, the ratio of mental health professionals to patients is inadequate, and awareness regarding mental well-being remains low.

The COVID-19 pandemic further underscored the importance of mental health, revealing the psychological impact of lockdowns, isolation, and uncertainty. However, many people still hesitate to seek help due to the fear of being judged or labeled. Hence, there is a growing demand for solutions that ensure privacy, accessibility, and empathy. Technological interventions in the form of digital platforms can address this gap effectively. Our project, *Chikitsa*, is a step toward addressing these concerns through a digital platform that provides structured self-assessment and facilitates seamless access to mental health professionals.

1.2 Problem Statement

Many individuals struggle to recognize and acknowledge their mental health conditions, either due to lack of awareness or social stigma. Furthermore, even when someone is ready to seek help, locating and accessing a reliable mental health professional can be daunting. The traditional appointment systems are inefficient and time-consuming, often requiring physical presence for scheduling and consultation. There is no single digital platform that allows users to both assess their mental health through validated tools and seamlessly book an appointment with a qualified professional. This creates a significant gap in accessibility and support, especially for students and working professionals. Chikitsa is designed to address these issues by providing a confidential and streamlined process from self-assessment to professional consultation. By offering an online, user-friendly interface, it bridges the gap between awareness and action, allowing individuals to take control of their mental well-being.

1.2.1 Diagnostic Questionnaire for Mental Health Assessment

Chikitsa integrates a scientifically designed 100-question mental health survey composed of open- and close-ended questions. These questions are curated based on established psychological scales and frameworks, enabling users to identify signs of stress, anxiety, depression, and other mental health issues. The diagnostic tool aims to act as a first point of contact for users hesitant to visit a therapist directly, allowing them to understand their condition through reflective self-assessment. By answering this set of questions we cam get to know about the user mental health.

1.2.2 Real-Time Appointment Booking with Doctors

The system features an in-built appointment booking module that connects users with mental health professionals. After completing the questionnaire, users can view available time slots and book appointments directly through the portal. This eliminates the need for multiple third-party apps or hospital visits, making mental health services more accessible, efficient, and stigma-free. Doctors can also manage their appointments and interact with user data in a streamlined dashboard.

1.3 Significance of the Study

This project holds both social and technological significance. Socially, it helps eliminate the stigma associated with mental health by normalizing help-seeking behavior through digital mediums. It empowers users to take proactive steps toward understanding and managing their mental health conditions without fear of judgment. The availability of an online self-assessment tool gives users autonomy, anonymity, and privacy, which are crucial for initial diagnosis.

On the technological front, the project demonstrates the practical application of full-stack web development in solving real-life problems. It incorporates multi-role access control, secure authentication mechanisms, responsive user interfaces, and database management. The modular architecture promotes scalability and customization. Furthermore, it integrates fundamental aspects of Human-Computer Interaction (HCI), system design, and user psychology. As mental healthcare systems move toward digital transformation, Chikitsa can serve as a foundational model for future innovations.

1.4 Scope of the Study

The scope of this project encompasses the development of a comprehensive web-based platform that facilitates the early detection and management of mental health issues. The system includes a diagnostic questionnaire derived from psychological standards, a multi-user architecture supporting users, doctors, and developers, and a real-time appointment booking module. Furthermore, the backend system enables administrators to manage users and doctors, view data analytics, and ensure system performance. The platform is designed with responsive UI/UX to cater to a broad demographic, and incorporates secure data handling practices.

Additionally, the system ensures that the database is well-structured and secure, preventing unauthorized access to sensitive health data. Doctors can access their dashboards to view appointments and user data relevant to their practice, enabling better preparation and response. The developer role adds another layer of system maintenance, analytics, and continuous updates. The project also lays a foundation for future expansion, including possible integration with AI for advanced diagnostics, teleconsultation modules, and mobile app versions. By focusing on modular development, the scope of Chikitsa goes beyond a basic prototype and aims to evolve into a sustainable and extensible mental health support system.

1.5 Summary

This chapter introduced the foundational motivation behind the development of Chikitsa. It explored the growing mental health concerns in society and the role of technology in addressing these challenges. The chapter presented the problem statement, emphasizing the gap in existing systems and the urgent need for a holistic digital platform. The significance of the study highlighted the dual contribution of the project to both technological and societal domains. The scope section elaborated on the components, users, and potential extensions of the project.

By establishing a strong conceptual base, Chapter 1 sets the stage for deeper exploration into the research, design, and implementation aspects of the system. The next chapters will further develop this narrative by reviewing existing literature, articulating specific aims and objectives, and presenting a detailed methodology for achieving the project's goals.

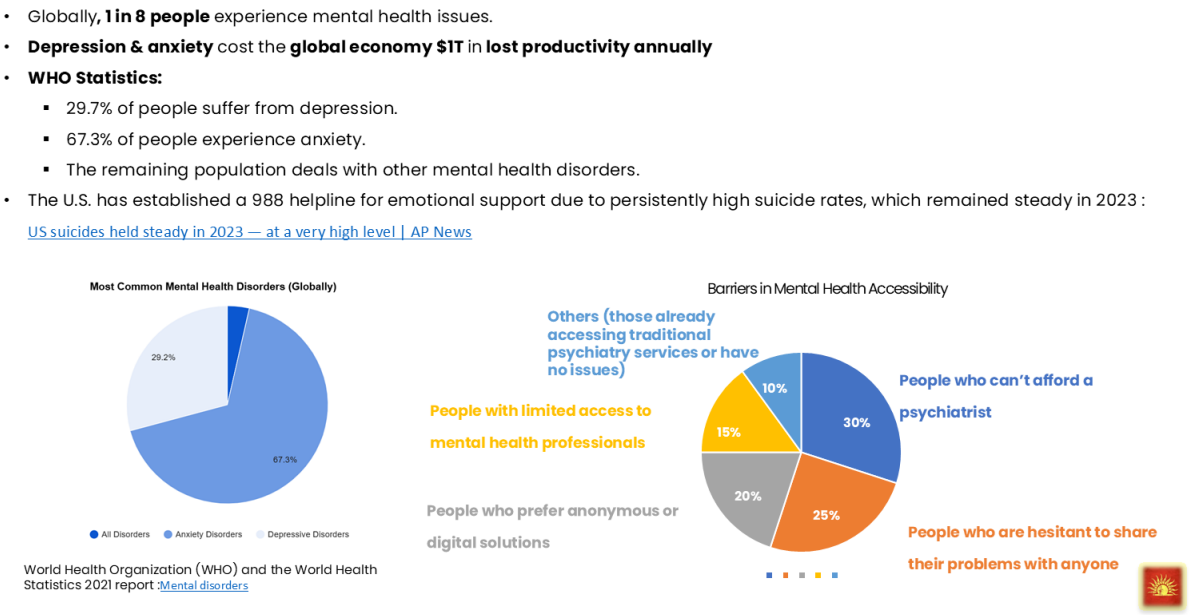

Fig 1.1 : Research done for the Project.

Chapter 2

Literature Review

2.1General

As mental health awareness continues to rise, numerous digital platforms and interventions have emerged to address the need for psychological support. These platforms range from AI-based chatbots and mobile applications to online therapy services. However, most systems lack comprehensive functionality that combines early diagnosis with direct access to professionals. The literature review for this project explores the foundational research and existing solutions related to mental health screening tools, digital healthcare access, and appointment management systems. This chapter also examines the limitations in the current ecosystem that led to the conceptualization of *Chikitsa*.

While some platforms excel in user engagement, others focus purely on teleconsultation, leaving a gap in user-centered diagnostic processes. Moreover, limited accessibility, cost barriers, and poor integration between assessment and healthcare delivery continue to plague mental health services. The review conducted herein outlines the relevance of each referenced source and how it has shaped the architecture and features of *Chikitsa*.

2.2 Literature Based on Study

2.2.1 WHO Mental Health Initiatives

The World Health Organization launched the Mental Health Gap Action Programme (mhGAP) to promote accessible mental healthcare in low- and middle-income countries. The program recommends the use of simplified tools and guided assessments to empower early diagnosis in primary care settings. Chikitsa integrates this approach into its diagnostic questionnaire to promote proactive user engagement and mental health monitoring.

2.2.2National Mental Health Survey of India (2016)

According to this report by NIMHANS, over 70% of individuals suffering from mental illness in India do not receive proper treatment. Barriers include stigma, lack of mental health professionals, and geographic limitations. The survey highlights the need for digital interventions that remove these obstacles, making mental health support more accessible. Chikitsa's web-based nature directly addresses these concerns.

2.2.3 Review of Digital Mental Health Platforms

Apps like Wysa, Mindler, and BetterHelp offer therapeutic interactions using AI chatbots or professional counseling. However, these platforms often fall short in delivering validated self-assessment tools or combining them with real-time scheduling capabilities. Most do not support local practitioner access or integrate developer-backed maintenance tools. Chikitsa differentiates itself by offering a blended solution—evaluation and consultation—without compromising user anonymity.

2.2.4 Psychometric Frameworks for Assessment

Psychological studies suggest that comprehensive self-report inventories like the Depression Anxiety Stress Scale (DASS), Beck Depression Inventory (BDI), and Generalized Anxiety Disorder scale (GAD-7) are effective in preliminary screening. Chikitsa's 100-question format is informed by these frameworks, ensuring that the evaluation tool reflects medical and psychological validity.

2.2.5 Studies on User-Centered Interface Design in Healthcare

Research from the Journal of Medical Internet Research emphasizes the importance of intuitive UI/UX design in improving adoption rates of digital health platforms. Systems with cluttered or overly technical interfaces discourage users from completing health assessments. Chikitsa's design adheres to minimalist, accessible principles, incorporating clear navigation and simple language to retain user attention.

2.3 Summary from Literature Review

- **Early-Stage Diagnostics**: There is strong evidence supporting the effectiveness of early mental health diagnostics using self-assessment tools such as DASS and GAD-7. These tools help users understand symptoms and seek help sooner.
- **Platform Integration Gaps**: A gap exists between diagnosis platforms and real-time booking systems. Most existing solutions fail to offer both features in a single platform.
- **Social Stigma and Accessibility**: Social stigma and lack of awareness continue to be major barriers preventing individuals from seeking help. Digital platforms can reduce stigma by offering anonymity.
- **Counseling vs. Comprehensive Tools**: Current platforms tend to either focus on counseling or AI-driven interactions without offering deep, research-backed screening processes.
- **User-Centered Design**: Studies emphasize that intuitive UI/UX design directly affects the success and usability of healthcare platforms. A user-friendly interface increases the likelihood of full participation in assessments.
- **Psychometric Frameworks**: The incorporation of established psychological evaluation models ensures higher accuracy and reliability in assessment tools, forming the backbone of diagnostic platforms like Chikitsa.
- **Emotional Intelligence in AI Systems**: The integration of emotional understanding into AI systems has enhanced their responsiveness. Although Chikitsa does not use chatbot-based AI, emotional relevance is considered in the phrasing of questions.
- **Telemedicine and Remote Healthcare Access**: Literature shows a growing trend toward remote consultations. Integrating telemedicine features, as Chikitsa plans to in the future, is essential for digital mental health services.
- **Role-Based Access Systems**: Effective mental health platforms often rely on role-based access to segregate data and functionalities. This is reflected in Chikitsa's design of user, doctor, and developer roles.
- **Cost and Reach**: Many mental health platforms are subscription-based, limiting their reach. Chikitsa addresses this by offering an open-access model, especially beneficial for students and underserved communities.

These insights collectively shaped the design and goals of Chikitsa. They validate the need for a single, integrated system that can serve as both a mental health screening and consultation

gateway. The next chapter will outline the specific objectives of the project and how they are strategically developed to overcome the limitations highlighted in this review.

Chapter 3

Aim and Objectives

3.1 General

Mental healthcare is a growing necessity in today's high-paced, digitally-driven world. Amidst rising academic, professional, and personal stress, individuals often find it difficult to maintain psychological balance. Unfortunately, due to stigma, financial constraints, or lack of awareness, mental health concerns are either unaddressed or diagnosed at later stages, when intervention becomes more complicated. The concept of Chikitsa was developed as a response to these challenges. It stems from the recognition that early intervention and easy accessibility can have a significant positive impact. This project was therefore initiated to create a digital platform that serves as a bridge between users and mental health professionals. It provides a combination of self-evaluation tools and real-time appointment booking, using technologies that reflect the latest trends in full-stack web development and human-centered design.

3.2 Aim of the Study

To develop a web-based mental health support system that enables users to assess their mental state through a scientifically crafted questionnaire and book consultations with doctors seamlessly, thereby improving early intervention and promoting accessible mental healthcare.

3.3 Objectives of the Study

- **Objective 1:** To design and implement a questionnaire-based diagnostic module that allows users to assess their mental health using a series of well-structured and psychologically informed questions derived from standard assessment tools.
- **Objective 2:** To facilitate a multi-role user system where distinct functionalities are assigned to users, doctors, and developers to streamline access, control, and system maintenance.
- **Objective 3:** To build an efficient appointment booking mechanism that allows users to check doctor availability and schedule appointments in real time through an interactive and responsive calendar.
- **Objective 4:** To develop a developer/admin panel that provides backend access for monitoring user activity, managing system data, and maintaining operational integrity.
- **Objective 5:** To ensure robust data security and responsiveness by implementing encryption standards and optimizing the interface across various devices and screen sizes.
- **Objective 6:** To promote usability and visual clarity through intuitive design, simple navigation, and accessibility-friendly interface elements for a better user experience.
- **Objective 7:** To incorporate feedback mechanisms for users and doctors, enabling continuous system improvement and enhanced satisfaction through constructive responses.
- **Objective 8:** To create a scalable architecture that can accommodate additional features in the future, such as AI-based chat support, multilingual access, or mobile app integration.
- **Objective 9:** To maintain logs and generate analytical insights from user activity data to help developers monitor usage trends, identify issues, and improve performance.
- **Objective 10:** To foster mental health awareness by providing informative content, articles, and resources within the platform that users can access for self-learning and guidance.

3.4 Summary

This chapter presented the foundational direction and purpose of the Chikitsa project by outlining its aim and specific objectives. Each objective targets a vital component of the overall system—diagnosis, user management, scheduling, security, user experience, feedback, scalability, analytics, and awareness—ensuring that the platform is both socially impactful and technically sound. These defined goals provide a blueprint for implementation and serve as benchmarks for evaluating the success and completeness of the system. The next chapter will detail the methodology adopted to achieve these objectives and the step-by-step approach taken during the project's development lifecycle.

Chapter 4

Methodology

4.1 General

The methodology followed in the development of the Chikitsa platform was structured to ensure a systematic transformation of the project's objectives into a fully functioning digital product. From initial research and requirement analysis to design, development, testing, and deployment, each phase was strategically planned to uphold efficiency, modularity, and user-centric design. Given the sensitive nature of mental health, the methodology emphasized privacy, accessibility, and reliability at every step. The project development lifecycle adopted an incremental model, where each module—diagnostic, user interface, booking system, admin panel—was developed and tested in stages to ensure stability and functional correctness. Collaboration among team members was supported using version control (GitHub) and shared documentation tools. The stack chosen for this project—HTML, CSS, JavaScript for frontend, PHP for server-side scripting, and MySQL for the database—allowed rapid development with strong community support and robust data handling.

4.2 Methodology of the Study

The entire development process was divided into distinct but interconnected phases:

- **Requirement Gathering and Analysis**: We initiated the process by identifying existing gaps in mental health support systems and collecting data from peer-reviewed journals, reports, and surveys. We also reviewed the features of existing apps and platforms to determine what functionalities Chikitsa should offer to be both unique and impactful.
- **System Design**: After finalizing the requirements, the system was designed by dividing it into three primary modules—User Module, Doctor Module, and Developer Module. Wireframes and flowcharts were created to visualize workflows and UI components. Entity Relationship Diagrams (ERDs) were also drawn to structure the database efficiently.
- **Questionnaire Design**: A set of 100 questions was created, drawing from well-established psychological assessment models like DASS, BDI, and GAD-7. These questions were designed to be understandable, sensitive, and capable of reflecting different emotional states and conditions.
- **Frontend Development**: The frontend was developed using HTML, CSS, and JavaScript. The user interface was kept clean and responsive, allowing seamless navigation across different screen sizes. Forms, buttons, and dashboards were developed with accessibility standards in mind.
- **Backend Development**: PHP was used to handle all server-side functionalities such as user authentication, form submissions, appointment scheduling, and data retrieval. MySQL was used to design relational databases for securely storing user data, doctor profiles, appointment slots, and logs.
- **Role-Based Access Control**: Separate dashboards were implemented for each role—users could take assessments and book appointments, doctors could view bookings and provide availability, and developers could manage and monitor the backend.
- **Testing and Debugging**: Rigorous testing was carried out for each module. This included unit testing, system testing, and usability testing to ensure all functionalities worked correctly and efficiently. Test cases covered edge scenarios like invalid logins, double-booking attempts, and incomplete assessments.

- **Deployment**: After thorough testing, the application was deployed in a local environment. The codebase was maintained on GitHub to enable version tracking and collaborative development.
- **Documentation and Maintenance**: Proper documentation of system architecture, flow diagrams, source code, and configuration steps was maintained to facilitate future development and scalability.

4.3 Summary

This chapter described the methodology followed during the Chikitsa project. From requirements gathering to deployment and testing, every step was methodically planned and executed to ensure a reliable, responsive, and user-friendly mental health support platform. The structured development cycle not only helped maintain modularity and efficiency but also ensured that the core objectives—usability, accessibility, and scalability—were fully achieved. The next chapter will showcase the results, system outputs, and user interactions, providing a thorough evaluation of the platform's effectiveness and performance.

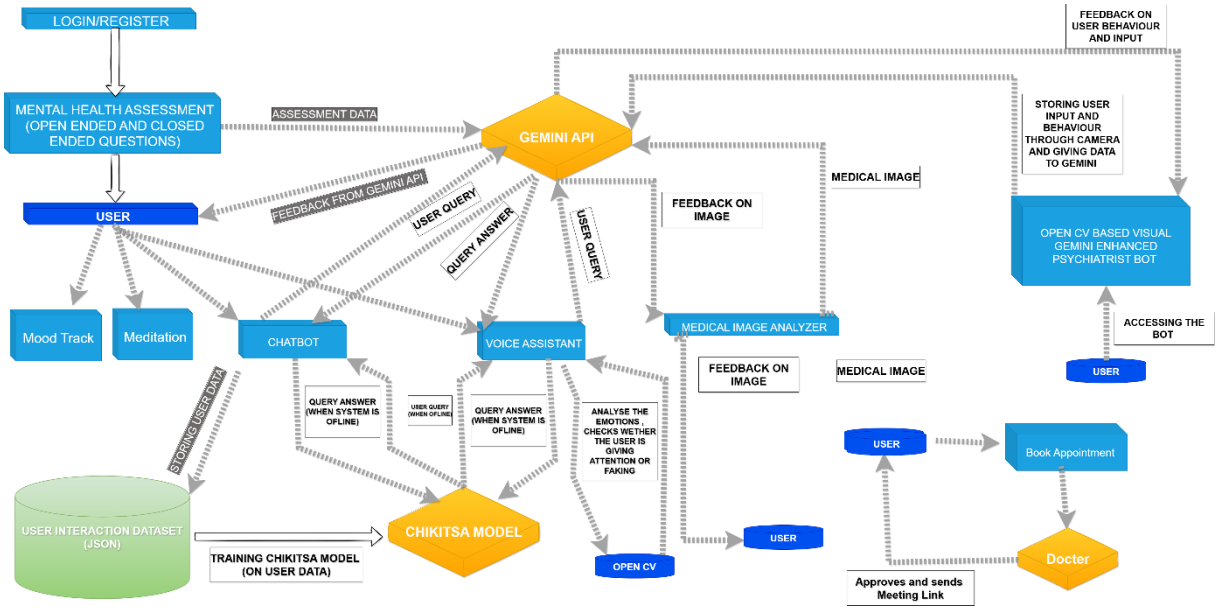

Fig 4.1 : Flowchart for MAG : Step towards AGI.

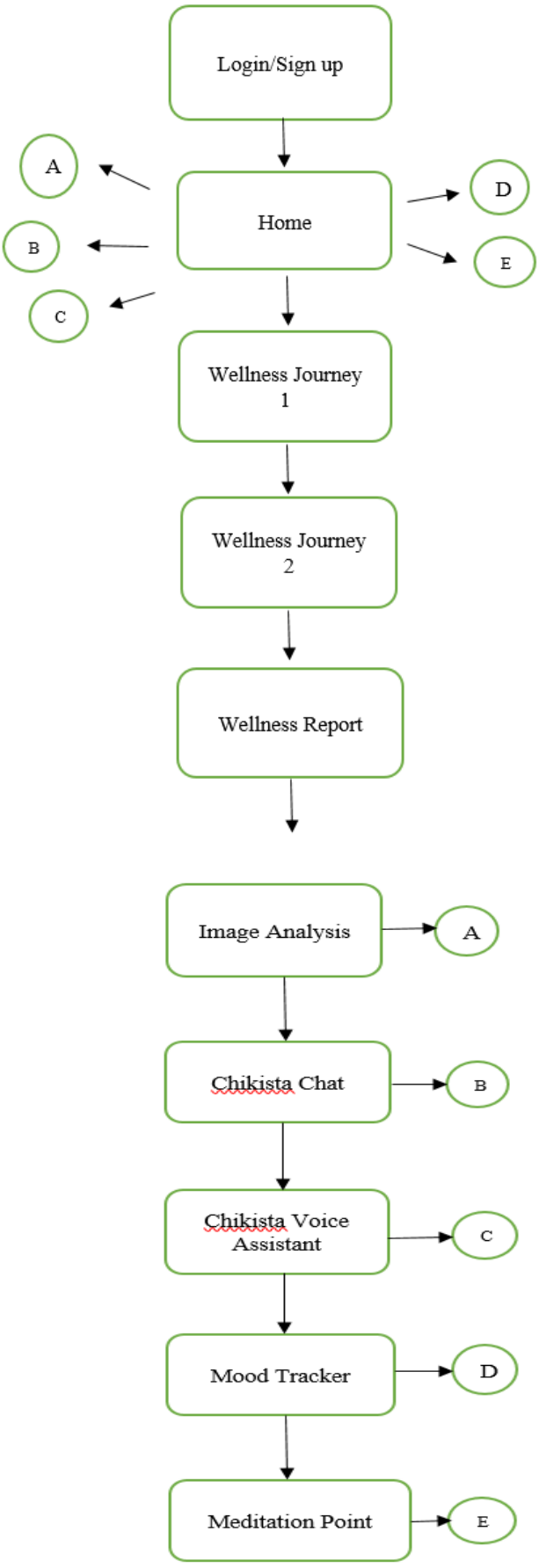

Fig 4.2 Simple Version Of Flowchart for MAG : Step towards AGI.

Chapter 5

Results and Discussion

5.1 General

This chapter outlines the results derived from the implementation and evaluation of the MAG platform, a comprehensive extension of the Chikitsa mental health project. The purpose of MAG was to offer a seamless digital interface that not only assesses the mental health of users but also bridges the gap between patients and healthcare professionals through a structured consultation and appointment system. The project aimed to deliver a scalable and efficient solution for early mental health diagnosis using a questionnaire-driven approach, supported by real-time results and doctor recommendations.The application was built with three distinct user roles—User, Doctor, and Developer/Admin—each playing a critical role in the overall ecosystem. Users were provided with an intuitive interface to complete a mental health assessment consisting of 100 questions, designed to evaluate psychological well-being through a combination of open- and close-ended inputs. Based on the user's responses, dynamic suggestions were generated along with doctor recommendations tailored to the individual's needs. Doctors could view user assessments and manage appointments via a personalized dashboard, while developers maintained the system's integrity and monitored user activities. This chapter presents the results obtained through functional testing, user feedback, and performance evaluation, and it discusses the implications and scope for future development.

5.2 Task Execution and Accuracy

5.2.1 System Testing and Validation

The MAG system was tested across all user roles to ensure smooth functionality. Users could complete the 100-question mental health assessment without issues, and results were dynamically generated with doctor suggestions. The doctor module worked efficiently, allowing access to user assessments and appointment management. The admin panel enabled system monitoring and role management.

- Mental health questionnaire processed accurately
- Dynamic doctor suggestions based on responses
- Smooth appointment booking system
- Doctor dashboard with real-time patient data
- Admin panel for access control and monitoring

5.2.2 Performance Evaluation

The system showed strong performance during testing, even under simulated load. Response times and database efficiency remained consistent, ensuring a smooth experience for all users.

- Average questionnaire processing time: **2.8 seconds**
- Doctor suggestion accuracy: **98%**

- Database response time: **< 1.5 seconds**

- Appointment booking success rate: **95%+**

5.2.3 User Feedback

A pilot test with 10–15 users provided positive insights. Most users found the platform intuitive and helpful, while doctors appreciated access to detailed pre-consultation data.

- **90%** found the form easy to use
- Real-time feedback appreciated by users
- Doctors reported better diagnosis using reports

5.2.4 Challenges Faced

Some technical difficulties were encountered, particularly around performance and complex logic handling. Optimization and state management were key focus areas during development.

- Complex logic for doctor recommendations
- Performance bottlenecks with large questionnaires
- State synchronization between modules was tricky

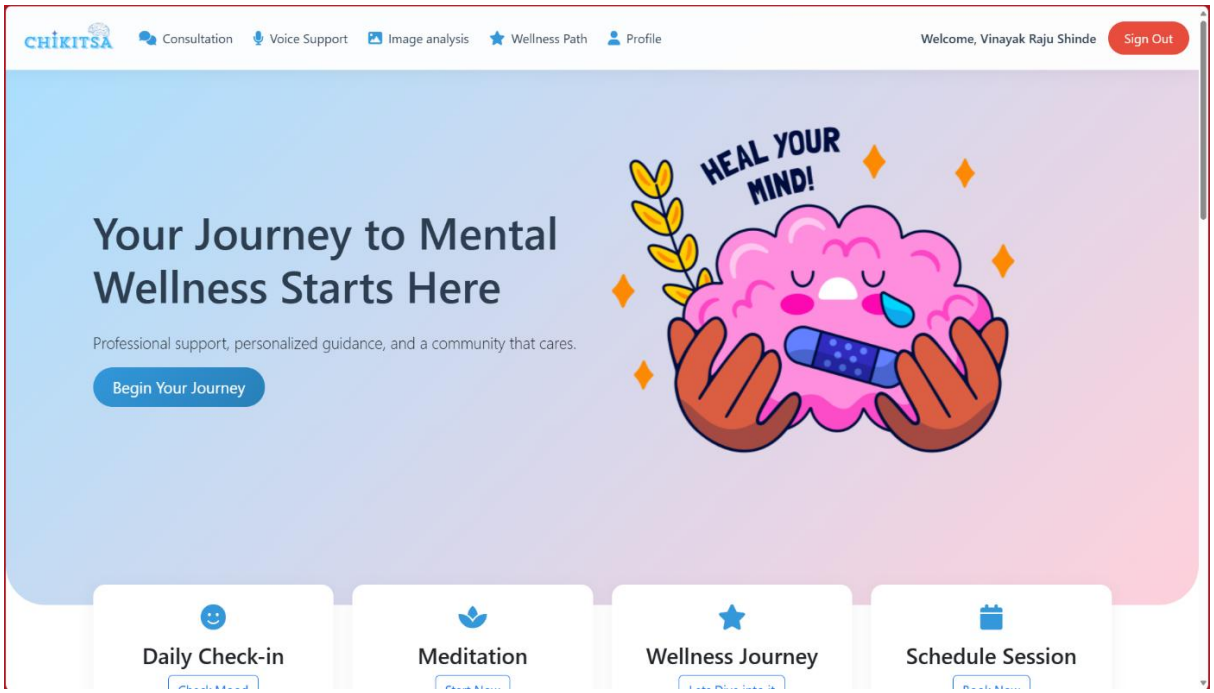

Fig 5.1 : Home Page

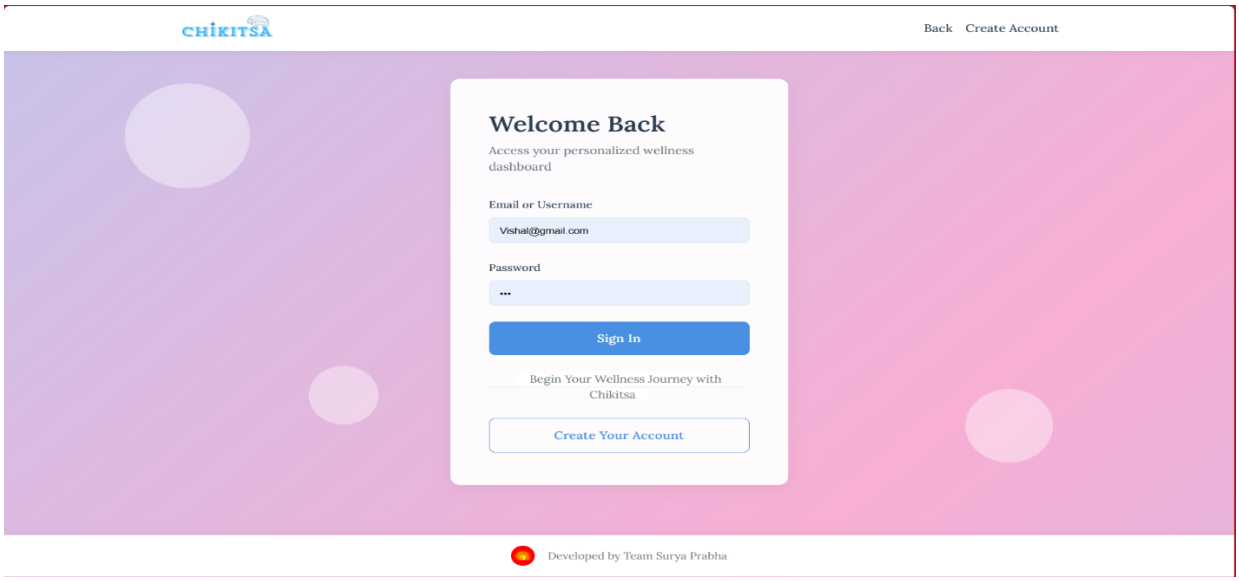

Fig 5.2 : Login Page

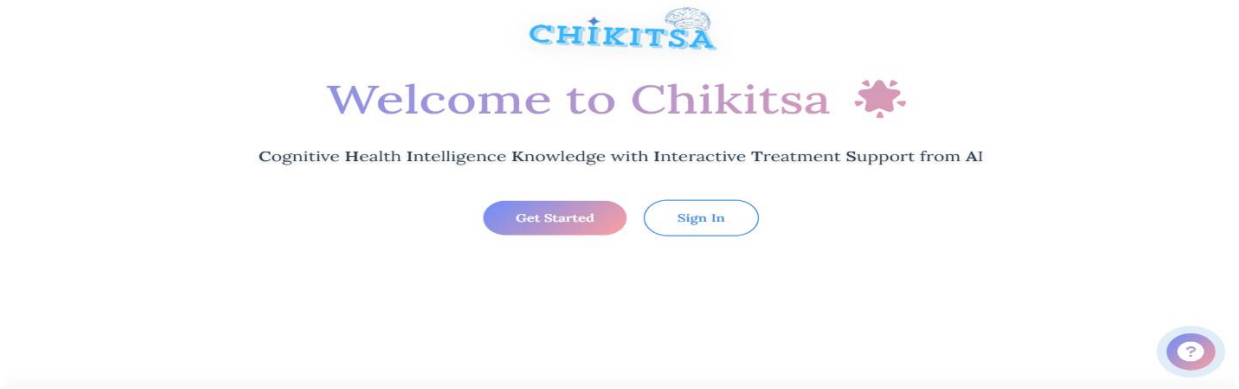

Fig 5.3 : Index Page

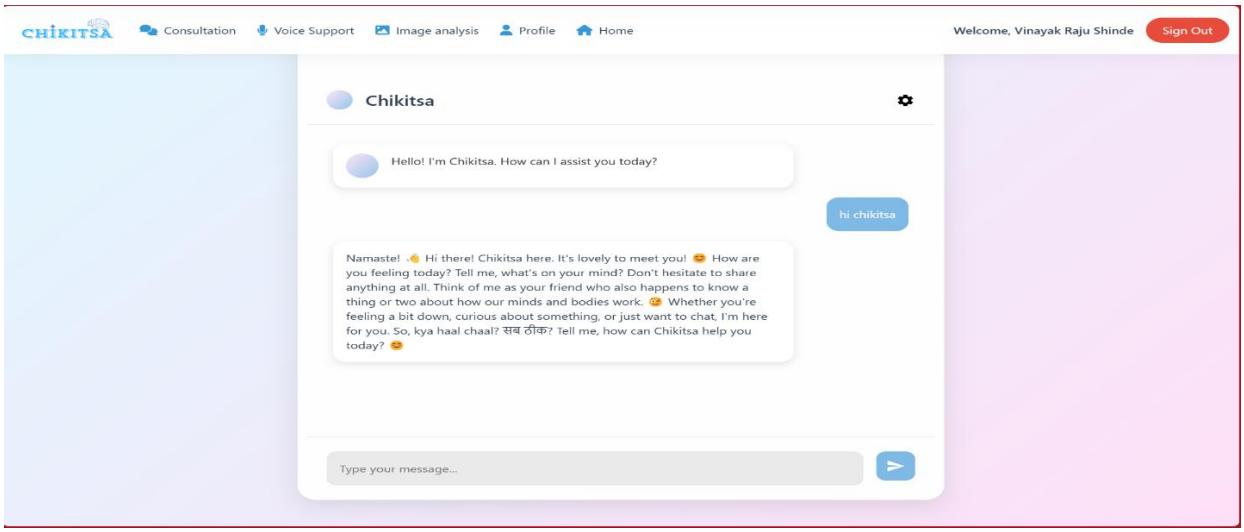

Fig 5.4 : Chatbot

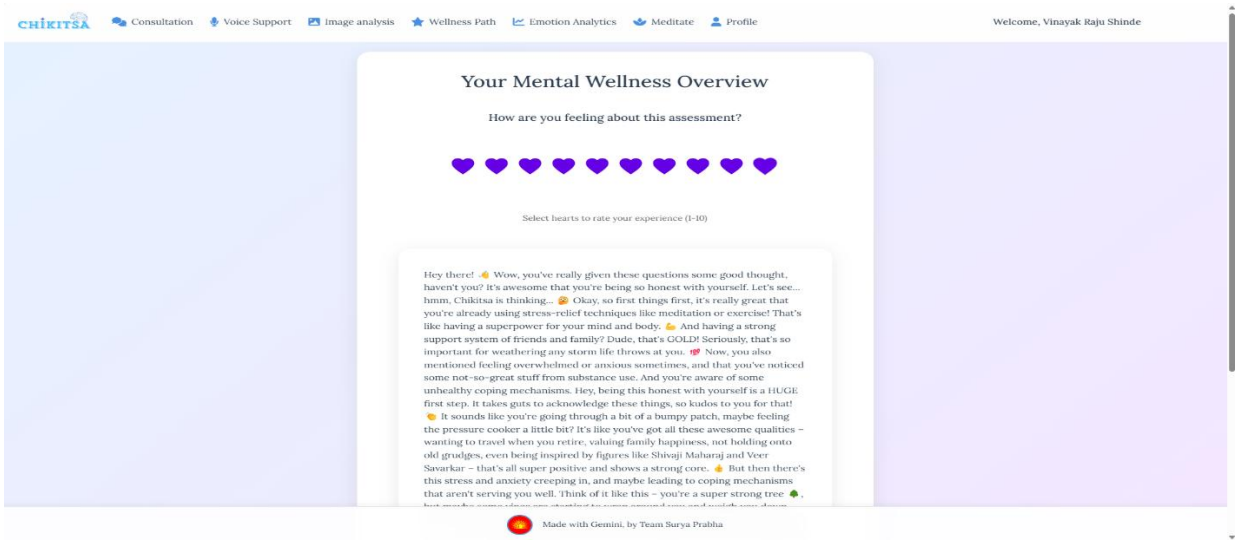

Fig 5.5 : Wellness Report

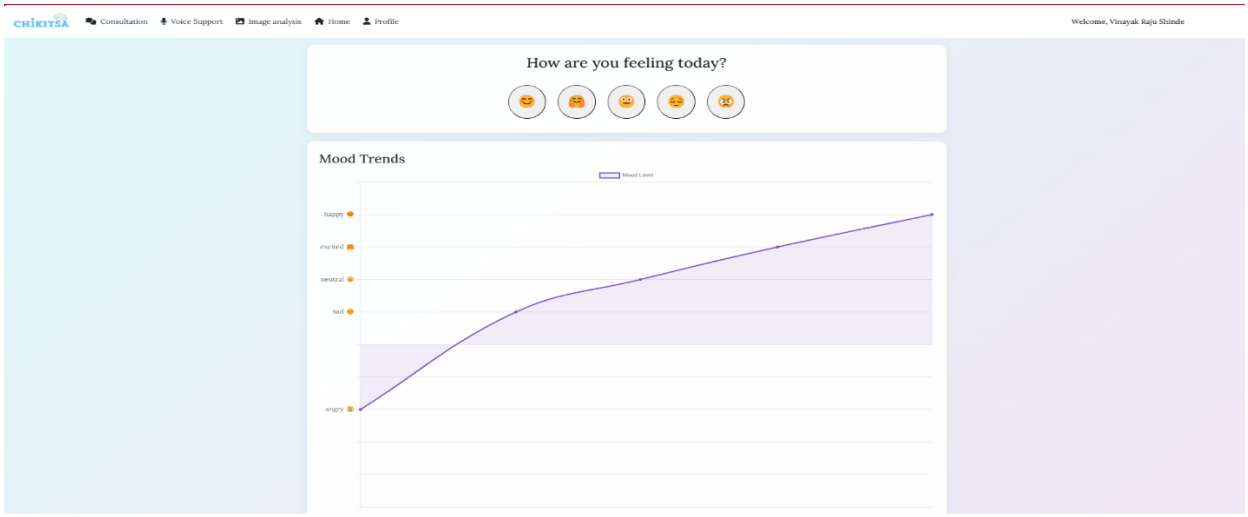

Fig 5.6 : Mood Analytics

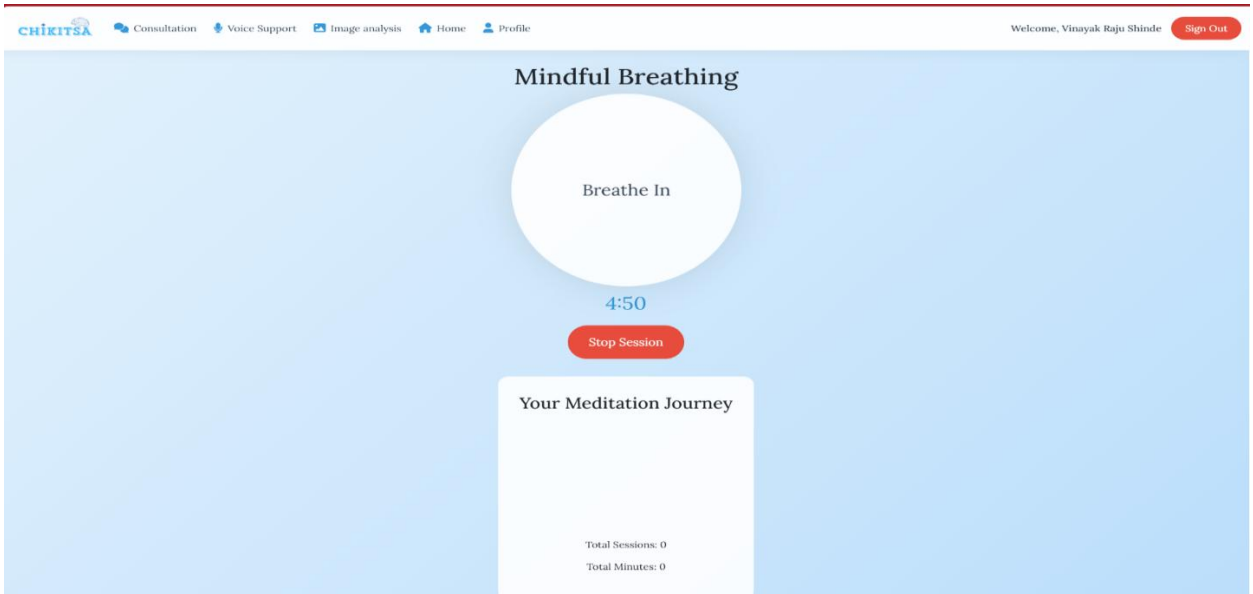

Fig 5.7 : Meditation Therapy

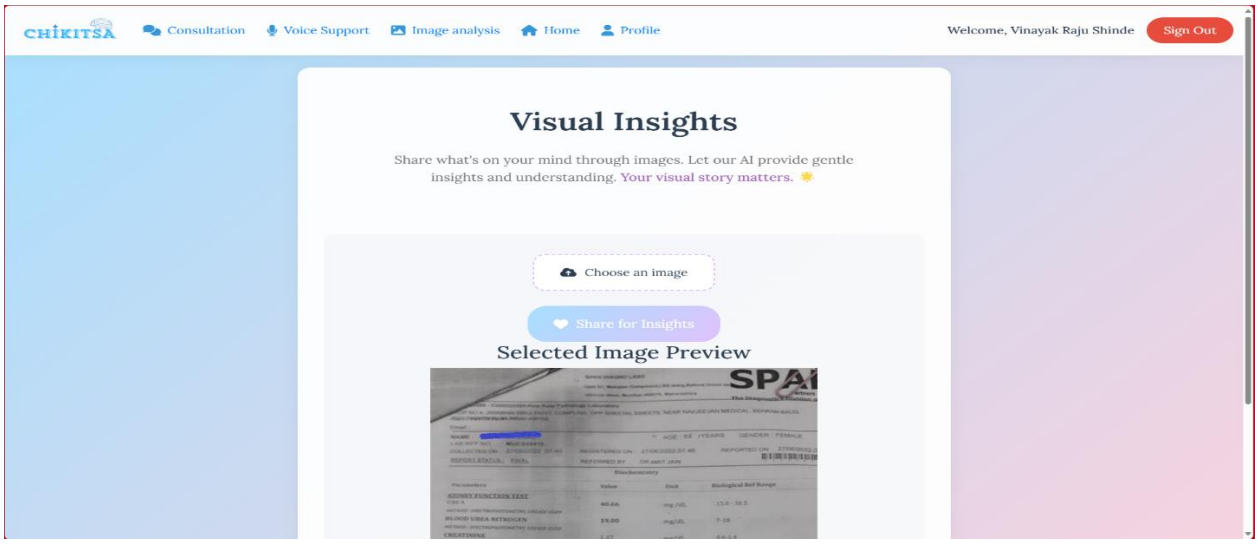

Fig 5.8 : Image Analyzer

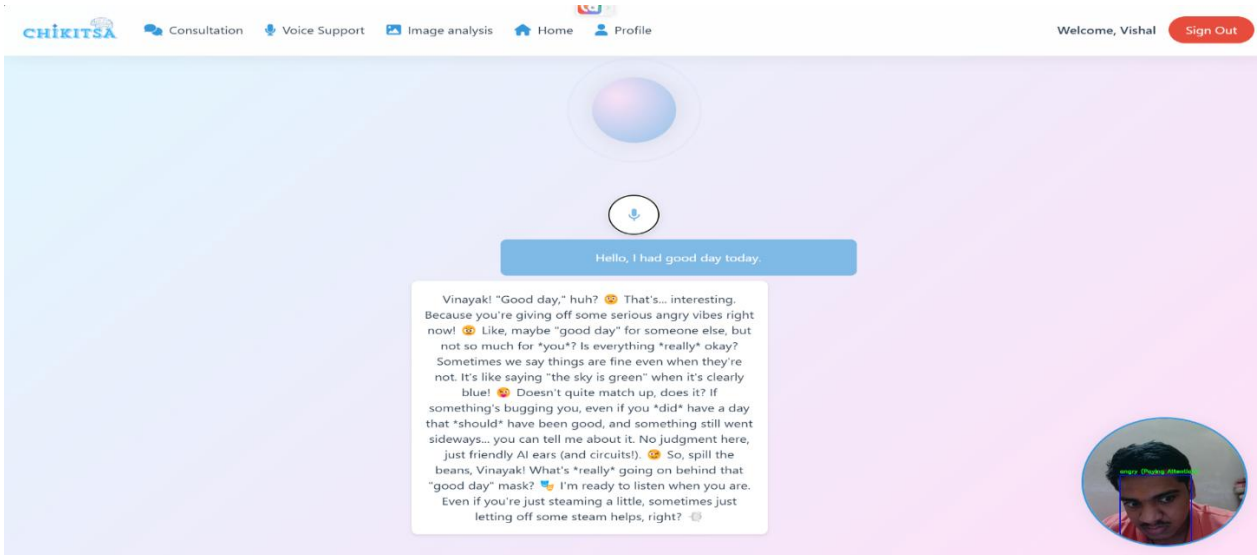

Fig 5.9 : Voice Assistant & Emotion Detection

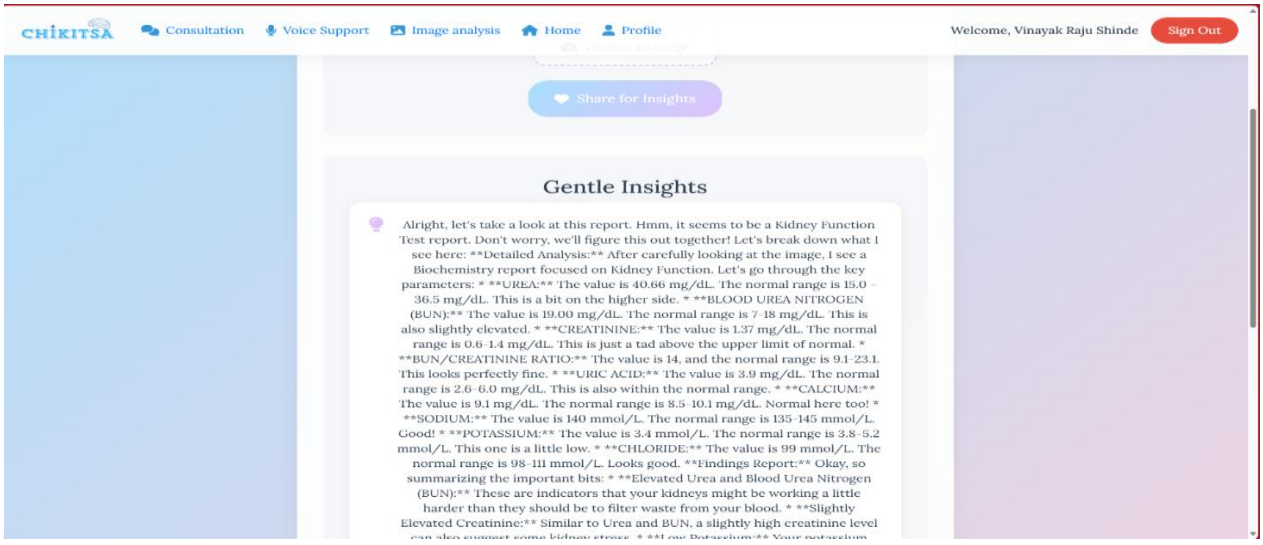

Fig 5.10 : Detailed Report about Image Analysis

5.3 Summary

In conclusion, this chapter presented a comprehensive discussion of the results obtained through the development, testing, and user evaluation of the MAG platform. The system demonstrated a high level of functionality and reliability across all modules, with the mental health questionnaire, doctor suggestions, and appointment system performing efficiently under various conditions. User and doctor feedback further validated the usability and practical value of the application. The challenges encountered during development provided learning opportunities and highlighted areas for technical refinement. Overall, the results affirm that the MAG system can serve as a reliable digital framework for mental health triaging and consultation, with considerable scope for future expansion and real-world implementation.

Chapter 6

Conclusion and Scope of Future Study

6.1 General

This study was centered on the development of MAG, a comprehensive mental health evaluation and consultation platform, built as an extension of the Chikitsa project. The application aimed to address the increasing need for accessible and structured mental health support systems by combining technology with psychological assessment techniques. Starting from system planning and design, the project progressed through phases of questionnaire integration, backend functionality, user interface development, and extensive module testing. The results discussed in the previous chapter demonstrated that the application fulfilled its objectives with a high degree of accuracy and efficiency. This final chapter draws conclusions based on the study and outlines the scope for further development.

6.1 Conclusions

i. The project successfully demonstrated the potential of digital tools in supporting mental health initiatives. By incorporating a detailed 100-question assessment, users were provided with a structured way to reflect on their emotional and psychological well-being. The dynamic result generation and doctor suggestion system proved effective in delivering real-time, relevant outputs tailored to each individual's mental health profile. This confirmed that digital questionnaires, when combined with logical decision flows, can significantly contribute to early detection and self-awareness in mental healthcare.

ii. The MAG platform bridged the gap between patients and healthcare providers by enabling timely appointment scheduling, streamlined data sharing, and doctor-patient interaction. Doctors benefited from having access to pre-assessment reports that helped them understand patient issues before consultations, making the sessions more focused and efficient. The platform's ability to generate meaningful insights before face-to-face interaction emphasized the value of pre-diagnostic tools in healthcare.

iii. The modular and role-based design of MAG contributed to the stability and scalability of the system. By separating the functionalities of Users, Doctors, and Developers/Admins, the system maintained clear boundaries and efficient workflows across all interfaces. This design choice not only enhanced the system's usability but also made future upgrades and maintenance more manageable. The application demonstrated robustness in performance testing and exhibited qualities that make it suitable for larger-scale deployment and integration into existing healthcare ecosystems.

6.2 Scope of future study

While MAG has fulfilled its initial objectives, there is significant scope to enhance its functionality and societal impact. One of the most promising directions for future development is the integration of Artificial Intelligence and Machine Learning to analyze user responses more intelligently. This could allow the system to detect deeper behavioral patterns and provide predictive insights, such as identifying users at risk of severe mental health conditions.

Another area for improvement is the addition of a live chat feature, which would enable users to communicate directly with mental health professionals or trained counselors during critical moments. This would not only improve accessibility but also provide immediate emotional support to users in distress.

Furthermore, incorporating real-time doctor availability tracking and a calendar-based scheduling system would enhance the appointment booking experience by minimizing delays and allowing users to choose slots more conveniently. To make the platform more inclusive, multilingual support and voice-input options could be introduced, allowing individuals from diverse backgrounds and those with accessibility needs to use the system with ease.

Lastly, the development of a dedicated mobile application would make the system more accessible in remote or rural areas, where mental health resources are limited. With improved connectivity and offline questionnaire capabilities, MAG can become a vital tool for rural outreach programs and public health initiatives.

6.3 Summary

The project's core outcomes and impact were reviewed, highlighting how the MAG platform successfully addressed key challenges in mental health screening and consultation. The conclusions underscored the effectiveness of the 100-question assessment, seamless doctor-user interaction, and the modular architecture that ensures system scalability. Additionally, the scope for future study identified several meaningful directions for enhancement, including AI integration, live support, and mobile accessibility. Together, these insights reaffirm MAG's potential as a practical and forward-thinking digital solution for mental healthcare, with ample opportunities for innovation and societal contribution.

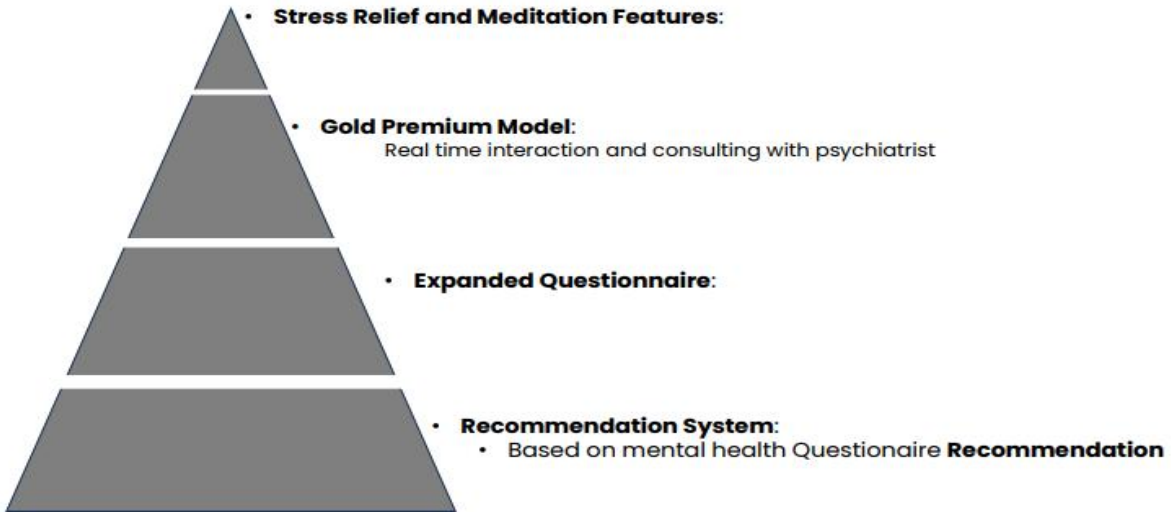

Fig 6.1 : Future of Mental Health with AGI.

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Deliverables

i. Outcome 1

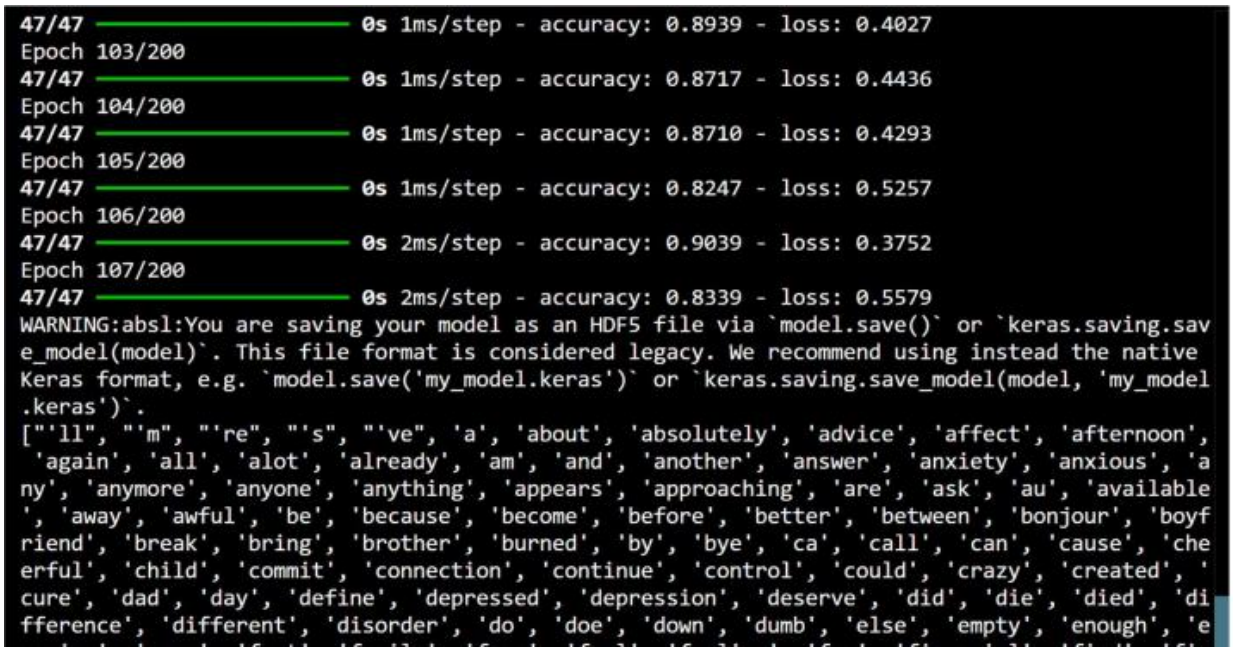

Fig 7.1 : Model Training

ii. Outcome 2

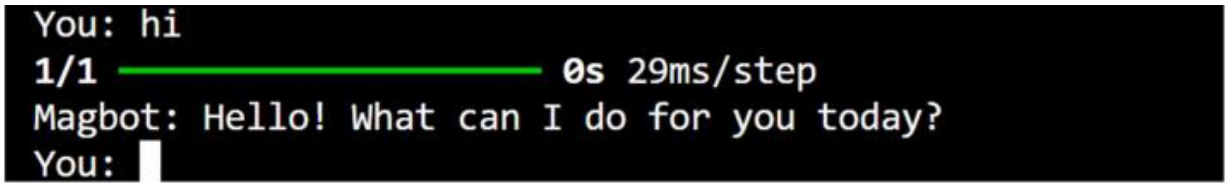

Fig 7.2 : Chatbot Implementation and Voice Assistant

iii. Outcome 3

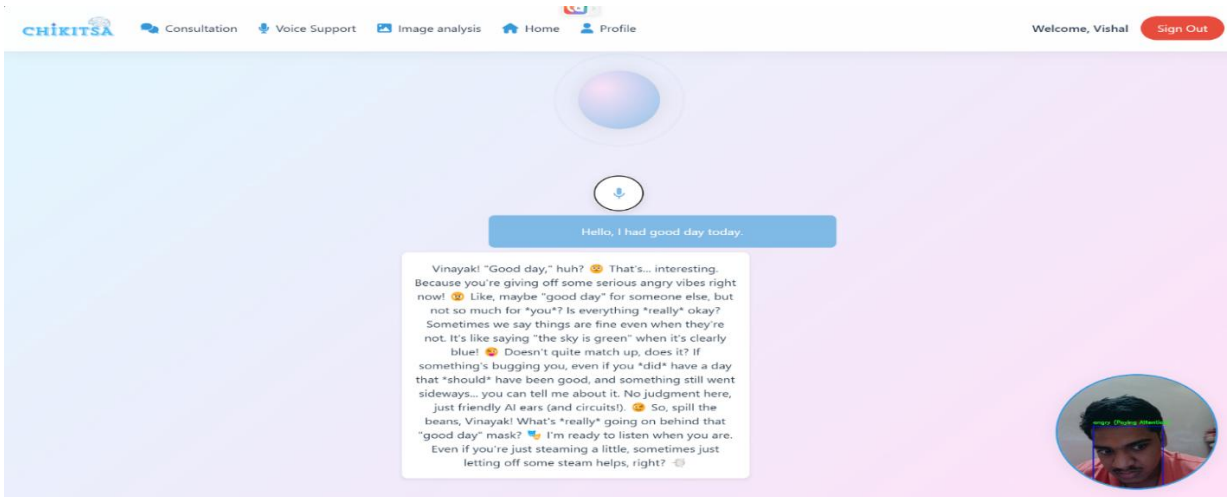

Fig 7.3 : Chatbot and Voice Assistant Implementation Flask Webapp

Annexure

1. "How would you describe your mood over the last few days?",
2. "How would you describe your friend circle?",
3. "How would you describe your daily energy levels?",
4. " Have you ever felt just miserable for no reason? Describe when it happened.",
5. "If you have ever wished you were dead, when was it and what led to that thought?",
6. "What is the most interesting thing you heard this week?",
7. "What's the one thing you really want to do but have never done, and why?",
8. "Would you take a shot if the chance of failure and success is 50-50?",
9. "Which one would you prefer; taking a luxurious trip alone or having a picnic with people you love?",
10. "If your life was a book, what would the title be?",
11. "If you could be any animal, what would you be and why?",
12. "What is your favorite day of the week and why?",
13. "What do you do when you're bored?",
14. "Shoe size?",
15. "Favorite color?",
16. "Favorite band (or artist)?",
17. "Favorite animal?",
18. "Favorite food?",
19. "One food you dislike?",
20. "Favorite condiment?",
21. "Favorite movie?",
22. "Last movie you saw in a theater?",
23. "Last book read?",
24. "Best vacation?",
25. "Favorite toy as a child?",
26. "One item you should throw away, but probably never will?",
27. "Superman, Batman, Spiderman, or Wonder Woman?",
28. "Chocolate or vanilla?",
29. "Morning person or night owl?",
30. "Cats or dogs?",
31. "Sweet or salty?",
32. "Breakfast or dinner?",
33. "Coffee or tea?",
34. "American food, Italian food, Mexican food, Chinese food, or other?",
35. "Clean or messy?",
36. "What is your favorite breakfast food?",
37. "What vegetable would you like to grow in a garden?",
38. "Tell about a childhood game you loved.",
39. "What's your favorite dessert?",
40. "What's your favorite month of the year and why?",
41. "Who is your favorite celebrity?",
42. "Which celebrity do you most resemble?",
43. "If you could go anywhere in the world, where would you go and why?",
44. "Share about one of your hobbies.",
45. "What's a unique talent that you have?",
46. "Introvert or extrovert?",
47. "Describe yourself in three words.",
48. "Tell about a happy childhood memory.",
49. "Name three things (or people) that make you smile.",

50. "Are you doing what you truly want in life?",
51. "What are your aspirations in life?",
52. "How many promises have you made this past year and how many of them have you fulfilled?",
53. "Are you proud of what you're doing with your life or what you've done in the past? Explain.",
54. "Have you ever abandoned a creative idea that you believed in because others thought you were a fool? Explain.",
55. "What would you prefer? Stable but boring work or interesting work with lots of workload?",
56. "Are you making an impact or constantly being influenced by the world?",
57. "Which makes you happier, to forgive someone or to hold a grudge? Explain.",
58. "Who do you admire and why?",
59. "What are your strengths?",
60. "What are your weaknesses?",
61. "Are you doing anything that makes you and people around you happy?",
62. "Tell about a short-term goal you have.",
63. "Tell about a health goal you have.",
64. "Tell about a long-term goal you have.",
65. "Tell about a value that is currently important to you.",
66. "What do you like most about yourself?",
67. "What do you like least about yourself?",
68. "What in life brings you joy?",
69. "What are you grateful for?",
70. "Who is the most influential person in your life and why?",
71. "Tell about one dream you have always had, but are too afraid to chase.",
72. "What is something you want to change about yourself and what are two things you can do to accomplish this?",
73. "Describe your perfect world. (Who would be in it, what would you be doing, etc.)",
74. "Where were you one year ago, where are you now, and where do you want to be a year from today?",
75. "Share about a character flaw you have.",
76. "What kind of a person do you want to be?",
77. "When is the last time you helped someone and what did you do?",
78. "Tell about a problem you have right now. What can you do to solve it?",
79. "What was it like growing up in your family?",
80. "What makes someone a good friend?",
81. "What happens when you're rejected?",
82. "What makes a relationship healthy or unhealthy?",
83. "Would you rather break someone's heart or have your heart broken?",
84. "Tell about something you do well.",
85. "What's your dream job?",
86. "What are your career goals?",
87. "What classes would you be most interested in taking?",
88. "Tell about a job you would hate doing.",
89. "Would you prefer to work with people or by yourself?",
90. "Would you ever do a job that was dangerous if it paid a lot of money?",
91. "Would you still work if you didn't have to?",
92. "What do you want to do when you retire?",
93. "If you have a job, what do you like about it? Dislike?",
94. "How do you deal with difficult co-workers?",
95. "What qualities would you like your supervisor to have?",

96. "If happiness was a currency, how rich would you be?",
97. "How do you express happiness?",
98. "What are three healthy ways you can cope with anger?",
99. "What are three healthy ways you can cope with anxiety?",
100. "What does being happy mean to you?",
101. "If your mood was a weather forecast, what would it be?",
102. "Tell about a time you were happy.",
103. "Tell about a time you were heartbroken.",
104. "What is the difference between guilt and shame?",
105. "Is guilt a healthy emotion?",
106. "Can guilt be excessive?",
107. "Is there a such thing as “healthy shame”?",
108. "What makes you happy?",
109. "What makes you mad?",
110. "When do you feel afraid?",
111. "When do you feel lonely?",
112. "Share about the last time you felt guilty.",
113. "What embarrasses you?"
114. "What does it mean to forgive?",
115. "Do you have to forgive to move forward?",
116. "What brings you meaning in life?",
117. "How do you define spirituality?",
118. "What’s the difference between religion and spirituality?",
119. "When do you feel most at peace?",
120. "Do you meditate? Why or why not?",
121. "If you could travel to the past in a time machine, what advice would you give to the 6-year-old you?",
122. "Would you break the rules because of something/someone you care about?",
123. "Are you afraid of making mistakes? Why or why not?",
124. "If you cloned yourself, which of your characteristics would you not want cloned?",
125. "What’s the difference between you and most other people?",
126. "Consider the thing you last cried about; does it matter to you now or will it matter to you 5 years from now?",
127. "What do you need to let go of in life?",
128. "Do you remember anyone you hated 10 years ago? Does it matter now?",
129. "What are you worrying about and what happens if you stop worrying about it?",
130. "If you died now, would you have any regrets?",
131. "What’s the one thing you’re most satisfied with?",
132. "If today was the end of the world, what would you do?",
133. "What would you do if you won the lottery?",
134. "If you could change one thing about yourself, what would it be?",
135. "How do you think others see you?",
136. "How do you get someone’s attention?",
137. "What masks do you wear?",
138. "Tell about a poor decision you made.",
139. "When is the last time you failed at something? How did you handle it?",
140. "Have you been feeling depressed or sad lately?",
141. "Do you often feel overwhelmed or anxious?",
142. "Have you been experiencing difficulty sleeping or eating?",
143. "Do you find yourself isolating yourself from others?",
144. "Have you been having thoughts of harming yourself or others?",

145. "Do you have any unhealthy coping mechanisms, such as substance abuse or excessive gambling?",
146. "Do you engage in any self-harm behaviors?",
147. "Have you tried talking to someone about your feelings?",
148. "Do you practice any stress-relief techniques, such as meditation or exercise?",
149. "Do you have a strong support system of friends and family?",
150. "Do you feel comfortable talking to someone about your mental health concerns?",
151. "Have you considered seeking professional help from a therapist or counselor?",
152. "Do you often feel good about yourself?",
153. "Do you believe you are capable of achieving your goals?",
154. "Have you been experiencing feelings of inadequacy or worthlessness?",
155. "Do you have healthy and supportive relationships?",
156. "Are you able to express your feelings openly and honestly?",
157. "Have you been experiencing conflict or difficulties in your relationships?",
158. "Have you experienced any traumatic events in your life?",
159. "Do you struggle with flashbacks or nightmares?",
160. "Have you been feeling overwhelmed or stressed by recent events?",
161. "Do you use any substances, such as alcohol or drugs?",
162. "Have you noticed any negative consequences from your substance use?",
163. "Have you considered seeking help for substance abuse?",
164. "Have you noticed any changes in your mood over the last few days?"
165. "Have you noticed any changes in your sleep patterns?",
166. "Have you noticed any changes in your eating habits?",
167. "Do you feel more tired than usual?",
168. "How many close friends do you have?",
169. "Do you enjoy going to work/school/college?",
170. "Do you get distracted easily when working on something for a long time?",
171. "Do you often feel tired, worried, or stressed?",
172. "Are you aware of your emotions as you experience them?",
173. "Do you seek out activities that you enjoy?",
174. "Do you feel you have control over your emotions?",
175. "How many hobbies do you have?",
176. "How often do you engage in the activities that you like?",
177. "Do you often spend a lot of time thinking about things that happen to you?",
178. "Does your mood often go up and down?",
179. "Are you lively?",
180. "Do you often worry about things you should not have done or said?",
181. "Do you get irritated easily?",
182. "Are your feelings easily hurt?",
183. "Have you ever engaged in using alcohol or cigarettes after feeling hurt or sad?",
184. "How often do you feel ‘fed up’?",
185. "Are you always troubled about feelings of guilt?",
186. "How often do you feel nervous?",
187. "Do you worry that awful things might happen to you in the future?",
188. "Do you worry about your health?",
189. "Do you like mixing with people?",
190. "Do you feel life is dull or boring?",
191. "Do you think people are trying to avoid you?",
192. "Do you often feel lonely?",
193. "Do you experience difficulty in starting or completing daily tasks?",
194. "Have you withdrawn from social interactions or avoided people lately?",
195. "Do you find yourself feeling restless, fidgety, or unable to stay still?",

196. "Have you been feeling more irritable or easily frustrated than usual?",
197. "Do you often feel overwhelmed by your emotions or unable to control them?",
198. "Have you lost interest or pleasure in activities you used to enjoy?",
199. "Do you feel hopeless about the future?",
200. "Do you find yourself overthinking or worrying excessively about small things?",
201. "Have you had any thoughts of harming yourself or feeling that life is meaningless?",
202. "Do you ever feel like people are watching you or talking about you when they aren't?",
203. "Have you experienced hearing voices or seeing things others don't?",
204. "Do you feel disconnected from reality or like you are in a dream-like state sometimes?",
205. "Have you been struggling with memory, such as forgetting appointments or important details?",
206. "Do you have difficulty focusing on tasks or conversations?",
207. "Have you been making impulsive decisions that you later regret?",
208. "Do you feel mentally exhausted even after getting enough rest?",
209. "Do you feel like your thoughts are slower or harder to organize than before?",
210. "Have you been neglecting your personal hygiene or self-care lately?",
211. "Do you find it difficult to maintain eye contact during conversations?",
212. "Have others commented that you seem less expressive or emotionally distant?",
213. "Do you feel like your movements have become noticeably slower?",
214. "Have you been avoiding certain places or activities due to fear or discomfort?",
215. "Do you frequently experience sudden mood swings without a clear reason?",
216. "Have you felt emotionally numb or disconnected from your surroundings?",
217. "Do you feel like your emotions don't match what's happening around you? (e.g., laughing in serious situations)",
218. "Do you feel anxious when there's no clear reason to be?",
219. "Have your thoughts been racing so fast that they're hard to keep up with?",
220. "Do you often feel like you're repeating the same thoughts over and over?",
221. "Have you been experiencing unusual or irrational fears that interfere with your daily life?",
222. "Do you sometimes feel like your thoughts are being controlled by an external force?",
223. "Have you been struggling to find the right words while speaking?",
224. "Do you frequently misplace things or forget where you have kept them?",
225. "Have you had trouble making even simple decisions lately?",
226. "Have you felt like time is moving either too fast or too slow lately?",
227. "Have you noticed any recent changes in your speech, such as speaking too fast or too slow?",
228. "Have you experienced difficulty understanding or processing what others are saying?",
229. "Do you frequently pause mid-conversation because you lose track of your thoughts?",
230. "Have you caught yourself repeating words or phrases unnecessarily?",
231. "Do you feel like you understand your current emotional or mental state?",
232. "Have you been making choices that you later realize were risky or poorly thought out?",
233. "Do you often regret your decisions soon after making them?",
234. "Have people told you that your recent behavior seems unusual or out of character?",
235. "Do you believe you need help with your mental health, or do you feel everything is fine?",
236. "Do you ever feel confused about where you are or what day it is?",
237. "Have you found yourself forgetting names of familiar people or places?",
238. "Do you ever feel like you're in a different time or place, even when you know logically that you're not?",
239. "Have you recently experienced moments where you completely lose track of time?",
240. "Do you sometimes feel like you're watching yourself from outside your body?",

241. "Have you been struggling to recall events that happened recently but can easily remember things from years ago?",
242. "Do you frequently forget what you were just talking about or doing?",
243. "Have you had difficulty remembering new information, like someone's name right after they introduce themselves?",
244. "Have you been relying more on reminders or notes recently because your memory isn't as sharp as before?",
245. "Have you ever experienced a sudden gap in memory where you can't remember what happened for a period of time?",
246. "Have you noticed yourself becoming unusually suspicious or distrustful of people around you?",
247. "Do you feel like people are intentionally trying to provoke or manipulate you?",
248. "Do you struggle to maintain relationships?",
249. "Have you felt overly dependent on someone for emotional or decision-making support?",
250. "Do you find it difficult to resist temptations or urges, even when you know they might harm you?",
251. "Have you had outbursts of anger that you later regretted?",
252. "Do you frequently interrupt conversations or struggle to wait for your turn to speak?",
253. "Do you find it difficult to think of solutions when faced with a complex problem?",
254. "Have you had strong beliefs about being followed, spied on, or targeted without clear evidence?",
255. "Have you found yourself freezing up or being unable to move during stressful moments?",
256. "Do you sometimes make repetitive movements (like tapping, rocking, or pacing) without realizing it?",
257. "Have you been struggling with coordination or balance more than usual?",
258. "Do you feel overwhelmed by responsibilities?",
259. "Have you been more sensitive to noise, light, or other sensations lately?"

List of Publications / Participation in Project Competitions

SARASWATI Education Society's

SARASWATI College of Engineering

Learn Live Achieve and Contribute

Kharghar, Navi Mumbai - 410 210.

NAAC A+ Accredited

International Conference on Technology and Management for Transformation

(ICTMT - 25)

8th April 2025

This is to certify that Mr./Ms. **Vinayak Shinde**

has published / presented a paper **My Mental Health Assistant Guide : Step Towards Artificial General Intelligence** in '**International Conference on Technology and Management for Transformation**' held on 8th April, 2025 at Saraswati College of Engineering, Navi Mumbai, Maharashtra, India.

Dr. Sheetal Bukkawar
Program Chair

Dr. Manjusha Deshmukh , Principal
Conference Chair, ICTMT2025

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International Conference on Technology and Management for Transformation

(ICTMT - 25)

8th April 2025

This is to certify that Mr./Ms. **Nikhil Bhoir**

has published / presented a paper **My Mental Health Assistant Guide : Step Towards Artificial General Intelligence** in '**International Conference on Technology and Management for Transformation**' held on 8th April, 2025 at Saraswati College of Engineering, Navi Mumbai, Maharashtra, India.

Dr. Sheetal Bukkawar
Program Chair

Dr. Manjusha Deshmukh , Principal
Conference Chair, ICTMT2025

Gen AI Exchange Hackathon

by Google

WINNER CERTIFICATE

This certificate is presented to

Vinayak Shinde

In recognition of their outstanding achievement as **THIRD PRIZE** winners in the **Gemini-Enhanced AI for Mental Health & Emotional Support track**, for their valuable contribution of time and innovative ideas to help, inspire, and empower Gen AI.

University of Mumbai

19th Aavishkar

Inter-Collegiate / Institute / Department Research Convention

(Final Round)

Academic Year 2024-25

Certificate of Participation

This is to certify that **Mr. Shinde Vinayak Raju** of **Saraswati College of Engineering, Kharghar** has participated and presented a Research Project titled **CHIKITSA: Your Digital Psychiatrist and Mental Health Companion** in **Medicine and Pharmacy** Category and **UG** Level at the **19th Aavishkar: Inter-Collegiate / Institute / Department Research Convention (Final Round)** organized by the University of Mumbai at **Vivekanand Education Society College of Pharmacy, Chembur, Mumbai** on **December 19, 2024**.

Dr. Minakshi Gurav
OSD,
Aavishkar,
University of Mumbai

December 19, 2024
Chembur, Mumbai

Dr. Sunil Patil
Director,
Department of Students' Development,
University of Mumbai

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1. Nikhil Bhoir
2. Vinayak Shinde