

“Manasarthi: AI-Powered Mental Wellness Platforms with Holistic Healing and Emotional Support”

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Abstract - This survey examines AI-powered mental wellness platforms through systematic analysis of seventeen research works (2023-2025), investigating architectural paradigms, AI integration methodologies, and clinical effectiveness. We analyze the Manasarthi platform featuring TypeScript architecture with React frontend, Express backend, Prisma ORM, and multi-provider LLM integration (Gemini, OpenAI, Anthropic, Hugging Face, Ollama). The platform demonstrates conversation memory management, dual-layer crisis detection, validated clinical assessments (GAD-7, PHQ-9, PSS-10, PCL-5, PTQ, TEIQue, Mini-IPIP), and integration of Western clinical psychology with Eastern spiritual traditions. Findings reveal a paradigm shift from rule-based chatbots toward sophisticated LLM implementations with personalized wellness planning. Key challenges include limited clinical validation, engagement sustainability, cultural competence gaps, and ethical considerations. Future enhancements propose parental companion applications with computer vision-based posture analysis for trauma detection, mobile applications, and clinical integration pathways.

Keywords: Artificial Intelligence, Mental Health Support, Large Language Models, Conversational AI, Crisis Detection, Personalized Wellness, Multi-Provider Integration, Holistic Healing, Clinical Assessment, Digital Therapeutics

1. Introduction

Contemporary society faces an unprecedented mental health emergency, with nearly one billion individuals globally experiencing mental health challenges according to World Health Organization estimates. Access to professional therapeutic interventions remains severely constrained by economic barriers, geographical limitations, social stigma, and inadequate healthcare infrastructure. Traditional psychotherapy models encounter fundamental scalability challenges, with therapist-to-patient ratios critically insufficient in many regions and wait times extending to several months. The temporal constraints of conventional therapy, typically

limited to scheduled sessions, fail to address immediate support requirements during acute mental health crises occurring outside clinical hours.

The confluence of artificial intelligence advancement, ubiquitous mobile connectivity, and sophisticated natural language processing capabilities presents transformative opportunities for democratizing mental healthcare access. Large language models demonstrate remarkable aptitude for empathetic conversation, contextual understanding, and therapeutic dialogue generation, prompting exploration of their application in digital mental health interventions. This systematic survey examines contemporary AI-powered mental wellness platforms through analysis of seventeen research publications from 2023-2025, investigating architectural paradigms, multi-provider LLM integration approaches, crisis detection mechanisms, and conversational memory management in therapeutic contexts. We assess therapeutic efficacy through examination of clinical assessment tools, personalized treatment planning methodologies, and progress monitoring systems, while exploring integration of Western clinical psychology with Eastern spiritual and mindfulness traditions in unified digital platforms.

The Manasarthi platform serves as a representative case study demonstrating how TypeScript-based architecture, react frontend, Express backend, and Prisma ORM can deliver comprehensive mental health support. The platform's multi-provider AI integration supporting Gemini, OpenAI, Anthropic, Hugging Face, and Ollama with automatic failover ensures service reliability, while validated clinical instruments (GAD-7, PHQ-9, PSS-10, PCL-5, PTQ, TEIQue, Mini-IPIP) provide quantitative mental health measurement. Critical evaluation addresses privacy protection mechanisms, ethical AI implementation standards, and crisis intervention protocols, examining fundamental questions regarding informed consent, algorithmic accountability, and appropriate boundaries of AI therapeutic involvement. This comprehensive review contributes understanding of

how modern software architectures effectively deliver scalable, empathetic, and clinically-aware mental health support while accelerating progress toward democratizing access to effective mental healthcare through thoughtful application of artificial intelligence technologies.

AI opportunities, survey scope covering 17 research publications, examination of architectural paradigms, LLM integration, crisis detection, therapeutic efficacy assessment, and holistic healing integration.

2. Literature Survey

Thakkar, Gupta, and De Sousa (2024) [1] examine AI technologies for early detection of mental health deterioration and preventive digital interventions. Their analysis identifies three primary mechanisms: predictive analytics for early warning systems, adaptive intervention delivery, and scalable accessibility transcending traditional healthcare infrastructure.

Salcedo et al. (2023) [2] explore machine learning implementations for diagnostic pattern recognition using behavioural markers and linguistic patterns. The research highlights ethical complexities including algorithmic bias, data privacy violations, and potential misdiagnosis in underrepresented populations.

Guo et al. (2024) [4] review large language model applications in mental health, revealing that GPT-4, Claude, and Gemini demonstrate sophisticated capabilities in empathetic response generation and contextual memory retention. The authors emphasize that human clinical oversight remains indispensable for safety validation in crisis scenarios.

Calvo et al. (2025) [5] investigate natural language processing applications utilizing social media and online forum data for mental health assessment. Their research demonstrates that linguistic analysis can identify subtle markers of depression and anxiety through sentiment trajectory analysis across temporal sequences.

Poria et al. (2023) [6] survey machine learning techniques for emotion detection across textual content, vocal patterns, and facial expressions. Their technical review establishes foundations for emotion-aware mental health systems through detailed analysis of neural network architectures and multimodal fusion techniques.

Halder (2025) [7] addresses challenges of developing culturally appropriate chatbots for the Indian context,

emphasizing that Western psychological frameworks often fail with different cultural conceptualizations. The study advocates for multilingual NLP models incorporating regional dialects and traditional healing concepts.

Marade et al. (2025) [8] introduce Spiritual.AI, integrating spiritual wellness, emotional therapy, and holistic healing methodologies. The platform demonstrates how AI algorithms personalize guidance drawing from yoga philosophy, Buddhist mindfulness practices, and contemplative prayer alongside evidence-based psychological interventions.

Malviya (2024) [9] examines religion and spirituality integration in mental healthcare for culturally diverse populations in Australia. The study establishes that spiritual beliefs significantly influence mental health outcomes, coping mechanisms, and treatment adherence.

Casu et al. (2024) [10] conduct a scoping review of AI chatbot clinical effectiveness through randomized controlled trials and real-world deployments. Their synthesis identifies moderate effectiveness for mild-to-moderate symptoms with high user acceptability, while acknowledging limitations for severe conditions and long-term engagement challenges.

Aggarwal et al. (2025) [11] present a meta-analysis of twenty-three studies examining spiritual practices and mental health outcomes in young populations. Their quantitative analysis reveals statistically significant associations between regular spiritual engagement and reduced depression and anxiety symptoms.

Kumar and Sharma (2025) [14] propose Mind Care, a multi-agent AI architecture employing specialized agents for conversation management, crisis detection, content recommendation, and progress monitoring. The modular approach demonstrates how microservices patterns can be adapted for clinical applications while maintaining safety protocols.

Méndez et al. (2024) [15] document Luna's deployment in higher education environments, tracking student interactions over an academic semester. The research reveals student preference for AI-based support citing reduced stigma, while identifying limitations including difficulty handling complex trauma and maintaining sustained engagement.

3. Material And Methodology

The Manasarthi platform employs a comprehensive technology stack integrating modern web development frameworks, database management systems, artificial intelligence services, and clinical assessment tools within a architecture for efficient development and deployment.

3.1 Hardware Components

The hardware infrastructure comprises development workstations with minimum 8GB RAM and multi-core processors. Production deployment utilizes cloud-based infrastructure with scalable compute resources and automated failover mechanisms. End-user access occurs through web browsers on desktop, tablet, and mobile devices with microphone and speaker capabilities for voice interaction features.

3.2 Software Components

The frontend implements React 18 with TypeScript, Vite build tooling, Tailwind CSS, and Radix UI components. State management employs stores with local Storage persistence, while React Query handles data fetching with automatic caching. The backend constructs RESTful APIs using Node.js, Express framework, TypeScript, and Prisma ORM. Authentication implements JWT tokens with b-crypt hashing and Google OAuth 2.0 integration. Input validation employs Zod schemas with centralized error handling middleware.

3.3 Database Architecture

The database utilizes SQLite for development with migration path to PostgreSQL or MySQL for production. The Prisma schema defines comprehensive models for User profiles, Assessment Result, Assessment Session, Conversation, Message, Conversation Memory, Mood Entry, Progress Tracking, Plan Module, and Content management. Performance optimization incorporates 40+ strategic indexes achieving 50-70% query performance improvements.

3.4 AI Integration Layer

The AI layer implements unified multi-provider abstraction supporting Gemini, OpenAI, Anthropic, Hugging Face, and Ollama models. The provider registry maintains prioritized service lists with health

monitoring and automatic failover. Crisis detection implements dual-layer mechanisms with immediate lexical pattern matching and AI-powered risk assessment. System prompts establish empathetic tone, therapeutic boundaries, and cultural sensitivity.

3.5 Clinical Assessment Integration

The platform incorporates validated instruments including GAD-7 for anxiety, PHQ-9 for depression, PSS-10 for stress, PCL-5 for trauma, PTQ for rumination, TEIQue for emotional intelligence, and Mini-IPIP for personality profiling. Each instrument implements standardized scoring algorithms with longitudinal tracking. AI-generated insights transform scores into accessible explanations and holistic wellness scores (0-100).

3.6 Content Management System

The content system supports audio, video, image, and text media types. The admin interface enables file uploads, YouTube metadata extraction, practice categorization by therapeutic approach (Western, Eastern, hybrid), and publishing controls. Content delivery APIs filter materials based on user preferences and track completion progress.

3.7 Progress Tracking and Analytics

The tracking system captures mood journal entries with configurable rating scales, arbitrary progress metrics (sleep quality, stress levels, exercise frequency), and wellness score calculations. Visualization dashboards present calendar heatmaps, line charts for assessment score evolution, and progress indicators for wellness plan completion.

3.8 Development Methodology

The development methodology employs Vitest for frontend testing, Jest for backend testing, and TypeScript compiler for type checking. Code quality maintenance implements ESLint and Prettier. Version control utilizes Git with feature branch development and pull request reviews. Database management employs Prisma CLI for migrations and seeding scripts for test data.

PROPOSED ARCHITECTURE SYSTEM:

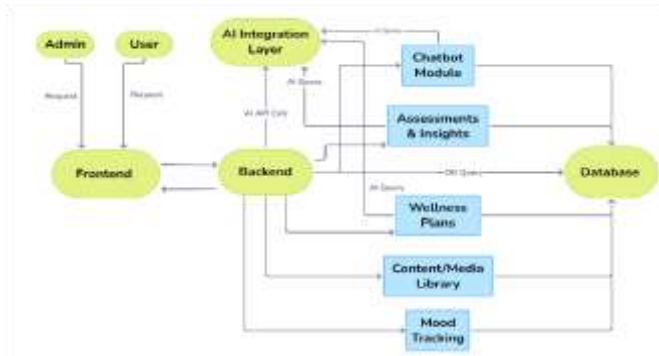


Fig. 1: Architecture Diagram

The Manasarthi platform architecture follows a three-tier design pattern with presentation layer (React SPA), business logic layer (Node.js microservices with RESTful APIs), and data persistence layer (Prisma ORM with optimized relational database). The TypeScript-based monorepo structure consolidates frontend and backend workspaces enabling atomic commits across the full stack while maintaining separation of concerns.

The frontend organizes components using feature-based directories for authentication, onboarding, dashboard, assessments, chat, and content modules. State management employs Zu stand stores for authentication, notifications, and application state with local Storage persistence. React Query custom hooks wrap API calls providing automatic caching, background re-fetching, and error handling. Protected routing requires valid JWT tokens and onboarding completion before accessing therapeutic features.

The backend implements dedicated controller modules for authentication (registration, login, OAuth), assessments (delivery, scoring, history), chat (messaging, AI communication, crisis detection), wellness plans (personalization, progress tracking), content (publishing, delivery), and analytics (mood trends, metrics). Middleware pipeline handles Zod validation, JWT authentication, role-based authorization, and centralized error handling.

The AI integration abstracts provider implementations behind a unified interface for Gemini, OpenAI, Anthropic, Hugging Face, and Ollama services. The conversation pipeline constructs context prompts from user demographics, preferences, assessment scores, conversation history, and mood entries. Crisis detection implements parallel lexical analysis for immediate safety

resources and asynchronous AI assessment for subtle warnings. Failover mechanisms use exponential backoff with circuit breakers for consistently failing providers.

The database schema captures User entities (credentials, demographics, preferences, consent), Assessment entities (instruments, responses, scores, temporal tracking), Conversation entities (messages, memory, emotional patterns), Wellness plan entities (modules, progress, engagement), and Content entities (multimedia assets, metadata, publishing status). Strategic indexing optimizes authentication lookups, assessment retrieval, conversation pagination, and dashboard aggregation.

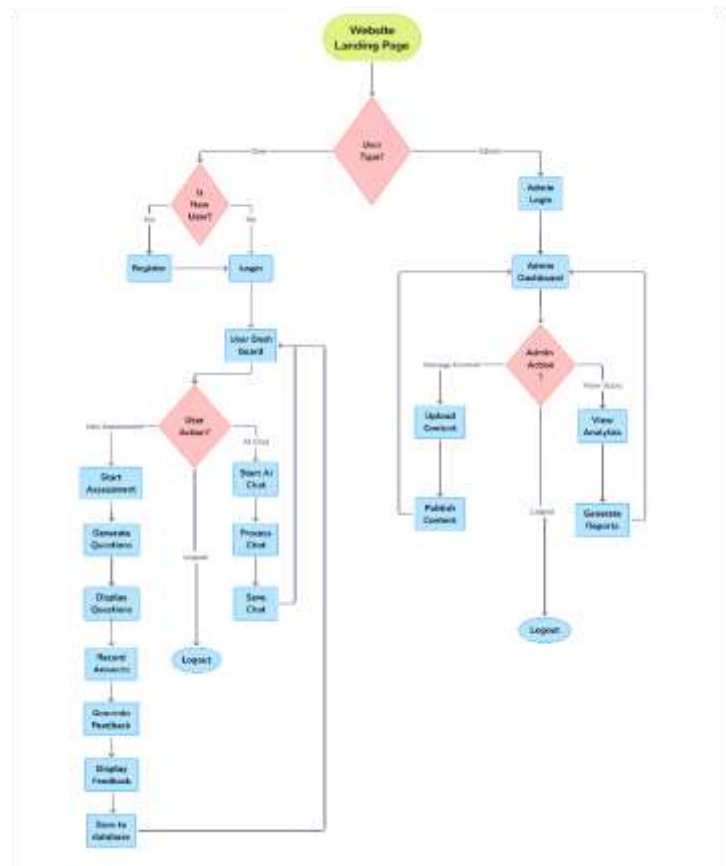


Fig. 2: Activity Diagram

4.Future Scope

The Manasarthi platform demonstrates significant potential for expansion across multiple dimensions:

Advanced AI Capabilities: Multimodal emotion recognition, body posture analysis via computer vision, and trauma detection through postural patterns.

Mobile Applications: Native iOS/Android apps with push notifications, offline functionality, and health ecosystem integration.

Parental Companion App: Dedicated application enabling parents to monitor children's mental wellness through behavioral assessments, mood tracking, and computer vision-based posture analysis detecting emotional distress and trauma indicators with automated crisis alerts.

Clinical Integration: EHR interoperability, teletherapy integration, FDA approval, and HIPAA certification.

Community Features: Peer support groups, accountability partnerships, and parental support communities.

Premium Models: Tiered subscriptions, family plans with multi-child profiles, and corporate wellness partnerships.

Emerging Technologies: VR/AR therapy, voice interfaces, brain-computer interfaces, and IoT integration.

Global Expansion: Multilingual support, cultural adaptation, and low-bandwidth progressive web applications.

Advanced Analytics: Longitudinal studies, parent-child dyadic research, and peer-reviewed publications.

Specialized Populations: Tailored experiences for adolescents, elderly, neurodivergent individuals, trauma survivors, and special needs children.

Privacy & Ethics: Age-appropriate consent, progressive privacy controls, and independent ethical oversight.

5. Conclusion

This survey examines AI-powered mental wellness platforms through analysis of seventeen research works from 2023-2025, revealing a paradigm shift from rule-based chatbots toward sophisticated multi-provider large language model implementations. The Manasarathi platform exemplifies effective application of modern software engineering through its TypeScript monorepo architecture, multi-provider AI integration with automatic failover, validated clinical instruments (GAD-7, PHQ-9, PSS-10, PCL-5, PTQ, TEI Que, Mini-IPIP), dual-layer crisis detection, and integration of Western clinical psychology with Eastern spiritual traditions.

Despite substantial progress, persistent challenges remain including limited clinical validation through rigorous trials, high user attrition rates, cultural competence gaps, and ethical concerns regarding consent, accountability, and privacy. The proposed parental companion application with computer vision-based posture analysis and trauma detection represents significant opportunity for early intervention, though requiring careful balance between protective monitoring and age-appropriate privacy. With sustained commitment to clinical rigor, ethical responsibility, and inclusive design, AI-powered platforms can meaningfully complement traditional mental healthcare, reducing access barriers and empowering individuals in their mental wellness journeys.

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