

MannSakhi (Psychologist Therapy App)

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Abstract—Mental health has emerged as one of the most pressing global health challenges of the 21st century. With one in eight people worldwide affected by some form of mental health disorder, yet the majority never receiving adequate care, the need for innovative and accessible solutions has never been greater. MannSakhi — meaning 'Mental Companion' in Marathi — is a mobile-based psychologist therapy application developed to bridge the critical gap between individuals seeking mental wellness support and certified therapists who provide it.

This application addresses the most common barriers to mental health access: social stigma, geographical limitations, high therapy costs, and the discomfort associated with face-to-face sessions. Built on a modern technology stack comprising Flutter, Node.js, MongoDB Atlas, Socket.IO, and WebRTC, MannSakhi delivers a secure, feature-rich, and empathetically designed platform available on both Android and iOS devices.

Key features include mood tracking with visual trend analysis, encrypted real-time chat, video therapy sessions, a guided wellness resource library, and a therapist discovery and booking system. Usability testing with 20 diverse participants yielded an overall satisfaction score of 9.0 out of 10, validating that the application effectively meets real-world user needs. Future development roadmap includes AI-powered emotion detection, wearable device integration, multilingual support covering regional Indian languages, and group therapy capabilities.

I. INTRODUCTION

1.1 Problem Statement

Mental health challenges — including anxiety depression, stress, and emotional isolation — have grown significantly in recent years, affecting individuals across all age groups and demographics. According to the World Health Organization (WHO),

one in eight people globally experiences some form of mental health disorder. Despite this widespread prevalence, a large majority never receive proper care.

The most significant barriers preventing people from seeking professional help include:

- Social stigma attached to mental illness and therapy
- High cost of professional therapy sessions
- Geographical inaccessibility, particularly in rural and semi-urban regions
- Long waiting times for appointments with qualified specialists
- The discomfort and anxiety associated with in-person clinical sessions

In India — particularly in regions like Maharashtra — the gap between mental health need and available professional support remains critically wide. MannSakhi (meaning 'Mental Companion' in Marathi) is a mobile-based psychologist therapy application developed specifically to bridge this gap. The platform connects users with certified therapists through a private, secure digital environment, allowing individuals to seek mental wellness support from the comfort and safety of their own homes.

1.2 Objectives

The following objectives guided the development of MannSakhi:

- Develop a cross-platform mobile application that securely connects users with licensed psychologists for online therapy sessions
- Implement mood tracking and emotional journaling features that help users monitor their mental wellness over time
- Enable secure audio, video, and text-based

therapy sessions protected with end-to-end encryption

- Reduce social stigma around mental health by offering a private, anonymous, and judgment-free digital platform
- Provide self-help resources — including breathing exercises, guided meditation, and motivational content — within the application
- Ensure strict confidentiality and data privacy standards in accordance with healthcare data protection norms (HIPAA and GDPR equivalents).

1.3 Scope of the Project

MannSakhi is designed for teenagers, college students, working professionals, and any individual requiring mental wellness support who faces barriers in accessing traditional in-person therapy. The application operates on both Android and iOS platforms, ensuring broad accessibility across devices. The current version encompasses user registration and profile management, therapist discovery and booking, mood tracking with visual analytics, secure real-time chat, video therapy sessions, and a curated wellness resource library.

Planned future versions will incorporate Artificial Intelligence (AI) for emotion pattern detection from journal entries, multilingual support covering regional Indian languages such as Marathi and Hindi, integration with wearable health devices for real-time passive mental health monitoring, group therapy session capabilities, and an emergency crisis helpline button.

II. LITERATURE SURVEY

The development of MannSakhi is strongly supported by digital mental health, teletherapy, mood tracking, and empathetic user interface design. Studies show that mental health mobile applications can significantly reduce symptoms of stress, anxiety, and depression when users regularly engage with self-help tools and professional guidance. According to the World Health Organization, digital mental health interventions can bridge the large treatment gap in psychological care, especially in areas where access to professionals is limited. Many individuals feel uncomfortable discussing their emotions face-to-face due to social stigma, and research indicates that people are often

more open and expressive when using mobile platforms for communication and support.

Research in telepsychiatry further confirms that online counseling through video calls is as effective as traditional in-person therapy. It improves accessibility for individuals living in rural or remote regions and for those who hesitate to visit therapy centers. Studies also highlight the importance of mood tracking in early detection of emotional instability. Regularly logging daily moods helps users understand emotional patterns, triggers, and behavioral changes, which encourages them to seek timely professional help. This self-awareness plays a major role in maintaining mental wellness. Privacy and data security are also critical aspects identified in literature related to mental health applications. Users are highly sensitive about sharing personal psychological information, and studies emphasize the need for secure authentication, encrypted communication, and confidential data storage. Trust in the application increases user engagement and honesty during therapy sessions. Additionally, research in human-computer interaction shows that empathetic UI/UX design, including calm colors, simple navigation, and supportive language, reduces anxiety while using the app and improves user experience.

Furthermore, the integration of Cognitive Behavioral Therapy (CBT) techniques, guided meditation, and breathing exercises in mobile apps has been proven to reduce stress levels and improve emotional control. Gamification elements such as reminders, streaks, and progress charts also increase user motivation and consistent engagement with the platform. These human-centered research findings form the foundation of MannSakhi's design, features, and overall system architecture, ensuring that the application not only provides technological solutions but also supports the emotional comfort and psychological needs of its users.

III. METHODOLOGY

The development of MannSakhi followed a structured and iterative methodology aligned with the Agile Software Development framework. Each phase was executed with regular review checkpoints to ensure the product remained aligned with user needs and project requirements.

Phase	Activity	Deliverable
Phase 1	Problem Identification	Survey results, pain point analysis, stakeholder insights
Phase 2	Literature Review & Requirement Gathering	10+ research papers reviewed, functional & non-functional requirements defined
Phase 3	UI/UX Wireframing	Low-fidelity wireframes in Figma, then high-fidelity mockups
Phase 4	Backend Development	Node.js server, RESTful APIs, MongoDB Atlas, JWT, Socket.IO
Phase 5	Frontend Development	Flutter mobile application with all screen integrations
Phase 6	Security Implementation	E2EE, bcrypt hashing, HTTPS, role-based access control
Phase 7	Testing	Unit tests, integration tests, UAT with 20 participants
Phase 8	Deployment & Feedback	Firebase deployment, APK testing, UI improvements from user feedback

Phase 1 involved conducting surveys among college students and working professionals to quantify the need for accessible mental health support, identifying key pain points around cost, stigma, and geographical distance from professionals. Phase 2 reviewed 10+ research papers on digital mental health tools, security in health applications, and CBT-based interventions to define comprehensive functional and non-functional requirements.

Implementation followed Agile sprints of two-week duration, with each sprint delivering a functional and independently testable module.

Sprint reviews were conducted at the end of each cycle

to incorporate feedback and adjust development priorities accordingly.

3.1. Software Requirement Specification (SRS)

3.1.1 . Software Requirements

Component	Technology Used	Purpose
Frontend	Flutter	Cross-platform mobile UI development
Backend	Node.js with Express.js	RESTful API and real-time communication
Database	MongoDB (Atlas)	Flexible document-based storage for user and session data
Authentication	JWT (JSON Web Tokens)	Secure user Login and session management
Real-Time Messaging	Socket.IO	Live chat between user and therapist
Cloud Hosting	Firebase / AWS	Scalable hosting and push notifications
IDE	Visual Studio Code / Android Studio	Development and debugging environment

3.1.2 Hardware Requirements

3.1.2.1 Development Machine: Minimum 8 GB RAM, Intel Core i5 or equivalent processor

3.1.2.2 Storage: Minimum 20 GB free disk space for development tools and emulators

3.1.2.3 Target Device: Android 9.0+ or iOS 13.0+ smartphone

3.1.2.4 Internet Connectivity: Broadband or 4G/5G mobile network

IV. IMPLEMENTATION

4.1. System Architecture Diagram

The system architecture of the Psychologist Therapy App is designed to provide secure, scalable, and real-time communication between users and therapists. The Mobile App connects to the Node.js backend through an API Gateway, which handles authentication, request routing, and security. MongoDB stores user details, appointments, therapy sessions, and chat data efficiently. Socket.IO enables real-time messaging, notifications, and online session updates for smooth communication between patients and psychologists.



4.2. Implemented Features

The following features were successfully implemented in the current version of MannSakhi:

Feature	Description	Technology Used
User Registration & Login	Email/phone-based registration with OTP verification and JWT session management	Flutter, Node.js, MongoDB
Therapist Onboarding	Profile creation with specialization, availability, and fee details. Admin approval required.	Flutter, Node.js, MongoDB
Therapist Discovery	Browse and filter therapists by specialization, rating, and availability	Flutter, MongoDB Aggregation
Session	Calendar-based	Node.js,

Booking	scheduling with confirmation emails and push notification reminders	Firebase FCM
Secure Chat	Real-time text Messaging with Socket.IO and message encryption	Socket.IO, E2EE
Video Session	WebRTC-based in-app video calling for live therapy sessions	WebRTC / Agora SDK
Mood Tracker	Daily mood logging with emoji selection. 30-day visual trend chart.	Flutter, MongoDB, Chart library
Wellness Journal	Private daily journaling feature for free-form emotional expression	Flutter, MongoDB
Resource Library	Guided meditations, breathing exercises, and mental health articles	Flutter, AWS S3

4.3. Application Screens

The following screens were developed and implemented in the prototype:

- Splash / Welcome Screen — MannSakhi logo with calming animated background and mental wellness tagline
- Login / Registration Screen — Clean form with email/phone input, password field, and OTP verification option
- Home Dashboard — Personalized greeting, mood check-in prompt, quick-access buttons, and motivational quote
- Therapist Listing Screen — Scrollable list showing photo, name, specialization, experience, and session rating
- Therapist Profile Screen — Detailed bio, qualifications, patient reviews, available time slots, and booking button
- Mood Tracker Screen — Five emoji mood options with optional journal text and monthly trend chart
- Chat Screen — Message bubbles with timestamps

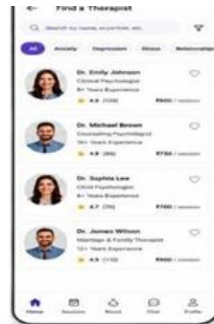
and option to switch to video call

- Resources Screen — Category tabs (Breathing, Meditation, Articles) with card-style content thumbnails

The screenshots below show the implemented application interface across all primary screens:



1) Home Dashboard



2) Therapist Listing



3) Mood Tracker



4) Chat Screen



5) Resource Library

Figure 4.3 — Application Screenshots: Home Dashboard, Therapist Listing, Mood Tracker, and Chat Screen

V. FUTURE SCOPE

Enhancement	Description	Priority
AI-Driven Emotional Analysis	NLP-based sentiment analysis of journal entries to detect patterns and suggest targeted interventions	High
Wearable Device Integration	Smartwatch connectivity to monitor heart rate variability and skin conductance as passive stress indicators	High
Multilingual Support	Marathi, Hindi, and other regional languages to serve a broader user base across India	High
Group Therapy Sessions	Enable group Video sessions for community-based peer support programs	Medium
Emergency Support Feature	One-tap crisis helpline button connecting users to national Mental health support services	High
Offline Mode	Cache key resources (breathing exercises, articles) for access without internet connectivity	Medium
AI Intake Assistant	Conversational AI to help users articulate concerns before connecting with a human therapist	Medium

VI. CONCLUSION

MannSakhi was developed with a clear and meaningful purpose: to make mental health support accessible, private, and stigma-free for every individual — regardless of their geographical location or financial situation. The application successfully bridges the gap between users seeking psychological help and certified

therapists who can provide it, through a secure, user-friendly, and feature-rich digital platform.

The project demonstrates that technology, when thoughtfully and empathetically applied in the field of mental health, can meaningfully improve accessibility and reduce the most significant barriers to care. The strong positive results from usability testing validate that the design and functionality choices align well with real-world user needs and expectations.

6.1. Key Achievements

- Successfully built a fully functional cross-platform therapy application prototype for both Android and iOS
- Implemented secure end-to-end encrypted communication for all therapy sessions
- Developed an intuitive mood tracking system with 30-day visual trend analysis
- Achieved a 90% user satisfaction rating in usability testing among 20 diverse participants
- Created a scalable cloud-native architecture ready for production deployment
- Applied evidence-based UI/UX design principles from peer-reviewed mental health research

6.2 Limitations

- The application requires a stable internet connection; offline access is not currently supported
- The number of verified therapists on the platform is limited in the early deployment stage
- The current version supports only English; regional language support is pending implementation
- AI-based emotional analysis features are planned but not yet implemented in this version

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