

MOODMATE - PROJECT PROPOSAL

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MOODMATE PROJECT PROPOSAL

1. Project Background and Problem Statement

Background

Mental health awareness has grown significantly in recent years, yet many individuals still struggle to understand and manage their emotional well-being. Traditional methods of mood tracking—such as paper journals or generic note-taking apps—often lack the analytical capabilities needed to identify patterns and provide meaningful insights. Furthermore, access to professional mental health support remains limited for many people due to cost, availability, and stigma.

Problem Statement

Many individuals face the following challenges when it comes to emotional well-being:

- 1. Lack of Self-Awareness:** People often fail to recognize patterns in their emotional states, making it difficult to identify triggers or understand the underlying causes of mood fluctuations.
- 2. Limited Access to Support:** Professional mental health services can be expensive, have long wait times, or be geographically inaccessible, leaving many without timely support.
- 3. Fragmented Solutions:** Existing mood tracking applications typically offer basic logging functionality without intelligent analysis, personalized recommendations, or integration with professional support systems.
- 4. Privacy Concerns:** Users are often hesitant to document their emotional experiences digitally due to concerns about data security and privacy.
- 5. Inconsistent Engagement:** Without meaningful feedback or encouragement, users frequently abandon mood tracking practices before establishing beneficial habits.

MoodMate aims to address these challenges by providing an intelligent, AI-powered mood tracking platform that combines personal journaling with automated emotional analysis, personalized recommendations, and optional access to professional counsellors.

2. Project Objectives and Scope

Objectives

- 1. Enable Emotional Self-Tracking:** Provide users with an intuitive platform to record and reflect on their daily emotional experiences through text-based journaling.
- 2. Deliver AI-Powered Insights:** Leverage artificial intelligence (OpenAI) to automatically analyze mood entries, detect emotional patterns, and provide meaningful insights.
- 3. Offer Personalized Recommendations:** Generate contextual tips, quotes, and suggestions based on detected emotional states to support user well-being.
- 4. Visualize Mood Trends:** Present historical mood data through interactive charts and visualizations to help users identify patterns over time.

5. Facilitate Professional Support: Connect users with counsellors through an integrated messaging system, enabling timely professional guidance when needed.

6. Ensure Data Privacy: Implement robust security measures including authentication, role-based access control, and encrypted data transmission.

Scope

In Scope

- Cross-platform mobile application (iOS and Android) built with Flutter
- Web application support
- User registration and authentication system
- Daily mood journaling with text input
- AI-powered mood analysis using natural language processing
- Automated mood-based recommendations and suggestions
- Mood history viewing with filtering capabilities
- Interactive mood trend visualizations (charts and graphs)
- Counsellor directory and contact functionality
- Real-time messaging between users and counsellors
- Counsellor dashboard for viewing assigned user mood summaries
- Push notifications for messages and updates
- Role-based access control (User, Counsellor)

Out of Scope (Demo Version)

- Voice-based mood input
- Integration with wearable devices
- Video/audio counselling sessions
- Payment processing for premium features
- HIPAA/GDPR full compliance certification
- Multi-language support

- Production-level deployment infrastructure
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3. Target Users and Identified User Needs

Primary Target Users

1. General Users (Individuals Seeking Emotional Wellness)

Demographics:

- Age: 18-45 years
- Tech-savvy individuals comfortable with mobile applications
- People interested in self-improvement and mental wellness

User Needs:

- Simple and quick way to log daily emotions
- Understanding of emotional patterns without manual analysis
- Actionable suggestions to improve mood
- Visual representation of mood trends over time
- Option to seek professional help when needed
- Assurance that personal data is secure and private

2. Counsellors (Mental Health Professionals)

Demographics:

- Licensed mental health professionals, therapists, or counsellors
- Professionals seeking digital tools to extend their reach

User Needs:

- Overview of client emotional patterns before sessions
- Efficient communication channel with clients

- Access to client mood history with proper consent
- Tools to track client progress over time
- Secure and confidential platform for professional communication

User Personas

Persona 1: Maya (General User)

- 28-year-old marketing professional
- Experiences work-related stress and anxiety
- Wants to understand her emotional triggers
- Prefers quick, daily check-ins over lengthy journaling
- Values data visualization and actionable insights

Persona 2: Dr. James (Counsellor)

- 42-year-old licensed therapist
 - Manages multiple clients remotely
 - Needs efficient tools to track client well-being between sessions
 - Values secure communication and comprehensive mood summaries
 - Wants to provide timely support to clients in need
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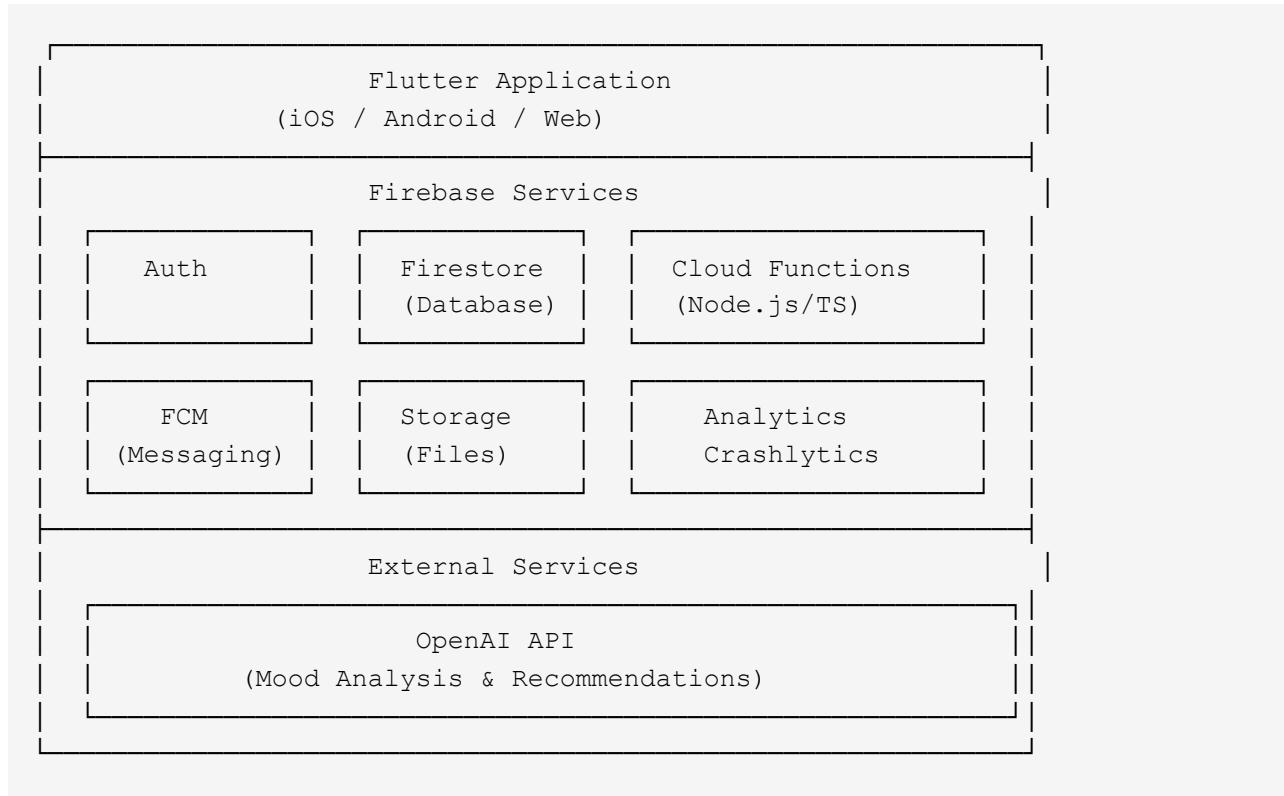
4. Overview of Proposed Features

Core Features

Feature	Description
User Registration & Authentication	Secure account creation and login using email/password with Firebase Authentication. Email verification and password strength validation included.
Daily Mood Journaling	Text-based mood entry system allowing users to document their feelings and experiences each day.
AI Mood Analysis	Automatic analysis of mood entries using OpenAI's natural language processing to detect emotional states (happy, sad, anxious, angry, neutral, etc.) with confidence scores.
Personalized Recommendations	AI-generated tips, quotes, and suggestions tailored to the user's detected emotional state. Includes fallback static recommendations when AI is unavailable.
Mood History & Timeline	Chronological view of all mood entries with filtering by date range (week, month, custom). Pagination support for large datasets.
Mood Trend Visualization	Interactive charts displaying mood patterns over time, including line charts, bar charts, and mood calendars. Export and share functionality.
Counsellor Directory	Browse and select available counsellors for support. View counsellor profiles and availability status.
Support Request System	Create support requests to connect with counsellors. Track request status (pending, accepted, completed).
Real-Time Messaging	Secure chat functionality between users and counsellors with real-time updates, offline support, and message read status.
Counsellor Dashboard	Dedicated interface for counsellors to view assigned users, access mood summaries (with consent), and manage conversations.
Push Notifications	Firebase Cloud Messaging integration for alerts on new messages, counsellor responses, and reminders.

Feature	Description
Role-Based Access Control	Differentiated access and functionality for Users and Counsellors with appropriate security rules.

Technical Architecture



5. Project Timeline and Milestones

Phase 1: Foundation (Weeks 1-2)  COMPLETED

Milestone	Tasks	Status
M1.1: Project Setup	Initialize Flutter project, configure Firebase, set up development environment	 Complete
M1.2: Authentication System	Implement user registration, login, email verification, and session management	 Complete
M1.3: User Roles & Permissions	Define user roles, implement Firestore security rules, role-based UI navigation	 Complete

Phase 2: Core Mood Tracking (Weeks 3-4)  COMPLETED

Milestone	Tasks	Status
M2.1: Mood Entry System	Design and implement mood entry UI, Firestore schema, data validation	 Complete
M2.2: AI Integration	Set up Cloud Functions, integrate OpenAI API, implement mood analysis	 Complete
M2.3: Recommendations Engine	Create mood-to-prompt mapping, generate personalized suggestions, implement fallbacks	 Complete

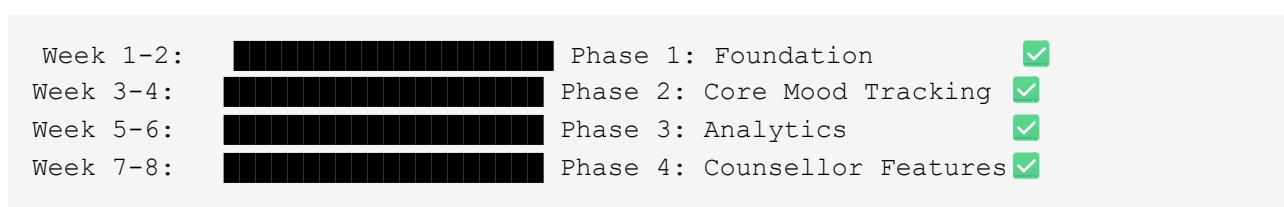
Phase 3: Analytics & Visualization (Weeks 5-6) COMPLETED

Milestone	Tasks	Status
M3.1: Mood History	Implement history view, date filtering, pagination, search functionality	 Complete
M3.2: Trend Visualization	Integrate charting library, create visualizations, add interactive features	 Complete

Phase 4: Counsellor Features (Weeks 7-8) COMPLETED

Milestone	Tasks	Status
M4.1: Counsellor Contact	Implement counsellor listing, support request system, notification integration	 Complete
M4.2: Counsellor Dashboard	Build dashboard UI, user assignment system, mood summary display	 Complete
M4.3: Messaging System	Implement real-time chat, push notifications, message status tracking	 Complete

Summary Timeline



Key Deliverables

- Fully functional cross-platform mobile application** supporting iOS, Android, and Web
- Secure authentication system** with role-based access control
- AI-powered mood analysis** with personalized recommendations
- Interactive mood visualization dashboard** with historical trends

5. Integrated counsellor support system with real-time messaging

6. Comprehensive documentation including setup guides and API documentation

Appendix

Technology Stack Summary

Layer	Technology
Frontend	Flutter (Dart)
Backend	Firebase (Authentication, Firestore, Cloud Functions, FCM)
AI/ML	OpenAI API
State Management	Provider/Riverpod
Charts	fl_chart / charts_flutter

References

- Flutter Documentation
 - Firebase Documentation
 - OpenAI API Documentation
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Document Version: 1.0

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Project: MoodMate - AI-Powered Mental Wellness Companion