

# Software Requirements Specification (SRS) for Mental Health AI Assistant

## 1. Introduction

**Purpose:** The purpose of this document is to define the functional and non-functional requirements for a Mental Health AI Assistant application.

**Scope:** The AI Assistant will provide users with conversational mental health support, mood tracking, coping strategies, and emergency escalation while ensuring privacy and ethical compliance. It is not a replacement for professional medical treatment.

**Definitions:** CBT (Cognitive Behavioral Therapy), PHQ-9 (Patient Health Questionnaire), AI (Artificial Intelligence).

## 2. Overall Description

**Product Perspective:** The product will be developed as a mobile application and web chatbot.

**User Characteristics:** The target audience includes adults and young adults seeking mental wellness support.

**Dependencies:** Internet connectivity, cloud hosting, AI model APIs, HIPAA/GDPR compliance.

## 3. System Features & Requirements

### Functional Requirements:

- Conversational support (chatbot).
- Daily mood check-ins and journaling.
- Coping strategies (CBT-based suggestions, mindfulness exercises).
- Crisis escalation to hotlines.
- User profile & history storage.

### Non-Functional Requirements:

- End-to-end encryption for data.
- Response time < 2 seconds.
- 99.9% uptime reliability.
- Ethical AI principles (bias minimization, transparency).

## 4. External Interface Requirements

**User Interface:** A calming UI with accessibility support, available on mobile and web.

**APIs:** AI/ML APIs (e.g., GPT), sentiment analysis APIs, emergency hotline integration.

**Hardware:** Smartphone with internet and microphone access.

## **5. System Architecture**

The system consists of:

- Frontend: Mobile/Web application.
- Backend: Application server with business logic.
- AI Engine: Natural language processing model.
- Database: Secure cloud storage.
- Monitoring: Logging and analytics services.

## **6. Safety & Ethical Considerations**

- Do no harm principle.
- Clear disclaimers: "This assistant is not a substitute for professional care."
- Escalation protocols for self-harm/suicidal ideation.
- Regular audits for bias, fairness, and data security.

## **7. Appendices**

- Mockups and UI wireframes.
- Glossary of psychological terms.
- References: WHO, APA standards, GDPR, HIPAA regulations.