Software Requirements Specification (SRS)

# 1. Introduction

This document outlines the Software Requirements Specification (SRS) for the AI-Powered Mental Health Support Chatbot. The purpose of this system is to provide accessible, anonymous, and culturally adapted mental health support through an AI-driven chatbot interface tailored for users in Pakistan.

# 2. Overall Description

The chatbot will use Natural Language Processing (NLP) to analyze user inputs and respond with supportive messages, coping strategies, and recommendations. It will operate through a web and/or mobile interface and prioritize user privacy and security.

# 3. Functional Requirements

* • User can initiate a chat anonymously with logging in.
* • System can understand and process text input in English and Roman Urdu,Punjabi.
* • Chatbot provides emotionally supportive responses based on NLP and mood detection.
* • User receives tailored coping strategies (e.g., breathing exercises, CBT-based techniques).
* • Chatbot tracks user mood trends over time through session logs.
* • User can access guided meditations, mindfulness tips, and self-care exercises.
* • Chatbot can detect severe distress and recommend contacting a therapist or hotline.
* • Admin can manage resources and chatbot responses via CMS.
* • System logs anonymized conversation data for analytics and improvement.
* • Optional: Therapist can log in to review flagged users and provide further support.

# 4. Non-Functional Requirements

* • System should respond to user messages within 1 second.
* • Chatbot should maintain 99% uptime.
* • All user conversations must be encrypted and stored anonymously.
* • System should support both desktop and mobile platforms.
* • NLP accuracy should exceed 85% in detecting mood and intent.

# 5. User Roles and Access

* • Anonymous User: Can chat with the bot, access self-help resources.
* • Admin: Can manage content, chatbot logic, and view system analytics.
* • Content Manager: Can upload new meditation exercises, update CBT material.
* • Therapist (Optional)(Doctor): Can access flagged chat history and follow up with users.

# 6. Assumptions and Constraints

• Users will have internet access.  
• Initial version will only support text input.  
• NLP model will be trained with culturally relevant datasets.  
• Compliance with data privacy laws in Pakistan.