Adaptive Mental Fitness App

Team Members:-

RAYAPUREDDI RISHI SRICHARAN- 2420030638

P. Rajendra Datta Sai Phlani Kumar-2420030609

INTURI RAJESH CHOWDARY- 2420030684

Abstract

Mental health issues such as depression, stress, and anxiety have become increasingly prevalent, especially among students and working professionals. Early detection and adaptive self-assessment tools can help individuals recognize potential concerns and seek timely support. This project presents the Adaptive Mental Fitness App, a Python-based web application designed to screen multiple mental health factors and provide personalized feedback. The system integrates three validated screening frameworks: the PHQ-9 for depression, GAD-7 for anxiety, and PSS-4 for stress, ensuring an evidence-based approach to assessment. Unlike static questionnaires, the app employs an adaptive questioning mechanism, adjusting follow-up questions based on initial responses to focus on areas of concern. It also offers personalized recommendations, such as relaxation exercises, mindfulness prompts, or professional helpline details, tailored to the user's scores. Weekly tracking is enabled through local data storage, allowing users to monitor progress over time with trend visualizations. The application is built using Streamlit for the interface, Pandas for data handling, and Scikit-learn for simple predictive modeling. While not a diagnostic tool, the Adaptive Mental Fitness App demonstrates how beginner-level machine learning techniques can be applied to create an interactive, socially relevant mental health awareness platform.

Adaptive Mental Fitness App – System Flow