AI-Driven Non-Invasive Health Monitoring System with Smart Chatbot

Problem Statement:

Monitoring glucose, cholesterol, and hemoglobin levels traditionally requires blood tests, which can be invasive, time-consuming, and uncomfortable for many individuals. Regular health check-ups become difficult due to the need for laboratory tests and professional assistance. There is a need for a non-invasive and easy-to-use method that allows people to monitor these health parameters easily, anytime, without the need of blood sampling.

Proposed Solution:

- We are developing a non-invasive health monitoring system that uses **saliva & sweat** analysis to detect blood glucose, hemoglobin, and cholesterol levels.
- This system eliminates the need for needle-based blood tests and provides a painless, real-time health tracking solution.
- An **AI chatbot** will provide health tips, diet suggestions, and answer queries, making health monitoring easy and painless.

Working Process:

- Sensors detect sodium, potassium, and lactose concentrations from sweat or saliva.
- Software calculates glucose, cholesterol, and hemoglobin based on medically approved formulas.
- Predicted values are stored in a database.
- The users can log in with their username and password to monitor their health history in the long term.
- The system allows users to compare past and present health records for better monitoring.
- The NLP – driven chatbot gives tips on health based on predicted values and responds to user questions regarding diet, exercise and overall health.

Features:

- Sensor-Based Health Analysis
- AI-Powered Prediction
- User-Friendly Data Entry
- Secure User Login
- AI Chatbot Support
- Database Storage & Management