AI Based Diabetes Prediction System

Problem Definition:

This AI-powered diabetes prediction system is used to analyze medical data and predict the likelihood of an individual developing diabetes. This system aims to provide early risk assessment and personalized preventive measures, allowing individuals to take proactive actions to manage their health.

Design Thinking:

1.Data collection:

Initially the dataset which contains medical features such as glucose levels,bp,bmi,etc with the user has diabetes or not is collected

2.Feature Selection:

It selects relevant features that can depicts diabetes risk prediction.

3.Model Selection:

It uses multiple machine learning algorithms to experiment like Logistic Regression, Random Forest, and Gradient Boosting.

4.Evaluation:

This system will evaluate the model's performance using metrics like accuracy, precision, recall, F1-score, and ROC-AUC.

5.Iterative Improvement:

After evaluating,it fine-tunes the model parameters and performs techniques such as feature engineering to improvise prediction accuracy.