Project Design Phase-II
Proposed Solution Template

Date	20 October 2023
Team ID	Team-592697
Project Name	Diabetes Prediction Using Machine Learning
Maximum Marks	2 Marks

Proposed Solution Template:

Project team shall fill the following information in proposed solution template.

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	The objective is to develop a machine learning model for diabetes prediction a model which predicts whether a person is healthy or diabetic. The problem is to design a model that can achieve a high rate of accuracy.
2.	Idea / Solution description	The idea or solution is to design a machine learning model that can predict the likelihood of an individual having diabetes based on various input features such as age, BMI (Body Mass Index), glucose levels, blood pressure, family history, and other relevant health parameters. This model aims to assist healthcare professionals in early diagnosis and intervention, potentially improving patient outcomes and reducing the risk of diabetes-related complications.
3.	Novelty / Uniqueness	Accurate and reliable. This uses the technique of cross-validation to evaluate the performance of the model on unseen data, which can help to ensure that the model is generalizable to new populations. This machine uses the technique of feature engineering to create new features that are more informative for predicting diabetes risk, which can help to improve the accuracy of the model. It collects data from a diverse population to ensure that the model is generalizable to different populations, this makes the model available as a web service or mobile app, which makes it accessible and easy to use for patients and healthcare providers.
4.	Social Impact / Customer Satisfaction	**Healthcare Accessibility**: Ensure that our model is accessible to a wide range of users, including healthcare professionals and patients. **Interpretable Predictions**: Make sure that our model's predictions are interpretable, not just for healthcare professionals but also for patients. **Real-time Alerts and Recommendations**: Offers real-time alerts and personalized recommendations for patients to take preventive actions Personalization: The solution can be used to generate personalized diabetes risk scores for each individual, providing patients with information that is relevant to them.

5.	Business Model (Revenue Model)	The solution could be sold to healthcare organizations as a tool for improving the efficiency of their diabetes screening programs. The solution could be sold to pharmaceutical companies as a tool for developing and marketing new diabetes drugs and treatments. Users could pay a fee each time they use the solution to predict their diabetes risk. This model would be appropriate for individuals who want to use the solution on an occasional basis. Subscribers pay a recurring fee to access the service, which can be based on usage levels, the number of predictions, or the number of users.
6.	Scalability of the Solution	The proposed solution for predicting diabetes risk using a machine learning model is highly scalable. The solution can be deployed on a cloud platform such as Google Cloud Platform or Amazon Web Services. This would allow the solution to be easily scaled to handle a large number of users and requests. The solution is also designed to be efficient. The machine learning model can be trained and deployed using a variety of tools and frameworks. This allows the model to be trained and deployed quickly and easily, even for large datasets. Use load balancers to distribute incoming requests evenly across multiple server instances or containers.