

Project Design Phase-I
Proposed Solution Template

Date	20 October 2023
Team ID	Team-591884
Project Name	Hospital Readmission Analysis using ML
Maximum Marks	2 Marks

Proposed Solution Template:

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	If a hospital has multiple readmissions, it means that the hospital needs to work on the quality of services it is providing with respect to the health and wellness of its patients. Being able to predict whether a person will be readmitted to the hospital within 30 days or not. This system will be of great help to the hospital in developing an idea of the incoming number of repeated patients which in turn helps to provide better services for patients with increased risk of disease.
2.	Idea / Solution description	Develop a hospital readmission prediction system using Machine learning algorithms like random forest, KNN, Decision Tree, Logistic Regression algorithms. This system will effectively predict whether a person who is suffering from diabetes and consulting a specific hospital will

		be readmitted or not, based on multiple factors.
3.	Novelty / Uniqueness	Using most effective Machine learning classifier algorithms like Logistic regression, k-nearest neighbour, Decision tree, Random forest, AdaBoost, Gradient Boosting predicts accurately and helps hospitals to provide a quality care and treatment for patients.
4.	Social Impact / Customer Satisfaction	Predicting hospital readmissions helps enhance patient care and safety by identifying individuals at higher risk of returning to the hospital, allowing for proactive interventions. Preventing unnecessary readmissions can lead to cost savings for patients and healthcare systems, reducing the financial burden on individuals and society. Patients will also satisfy with the resources and treatment by hospitals for arranging them before ahead.
5.	Business Model (Revenue Model)	Reducing readmissions can lead to cost savings for healthcare facilities, as readmissions are costly and can impact a hospitals bottom line. Predicting readmissions encourages

		hospitals to maintain and improve the quality of care, leading to higher patient satisfaction and a better reputation in the healthcare industry.
6.	Scalability of the Solution	Hospital readmission prediction is inherently scalable from technological perspective. It can efficiently predict the number of patients who revisits the hospital so that hospital can take care and arrange resources for them before ahead. Integrates with existing and future technologies, ensuring its effectiveness as a scalable solution.