Project Design Phase-I
Proposed Solution Template

Date	19 September 2022
Team ID	PNT2022TMID36002
Project Name	Project - Early Detection of Chronic Kidney Disease using Machine Learning
Maximum Marks	2 Marks

Proposed Solution Template:

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

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	Chronic kidney disease (CKD) is a condition in which the kidneys are damaged and cannot filter blood as well as they should. It has been of growing concern, as the kidney is one of the most important organs in the body required for filtering blood. 10% of the population worldwide is affected by CKD, and millions die each year because they do not have access to affordable treatment. Thus, it is important to be able to predict CKD using various machine learning techniques.
2.	Idea / Solution description	Various diagnostic measurements like Blood Pressure (Bp), Albumin (Al) etc., of the patients are collected and the data is processed and given to a machine learning model that will predict if the patient has CKD or not. Among the various ML models that are available, the one that will give higher accuracy will be chosen to get better results.
3.	Novelty / Uniqueness	We aim to find the best machine learning model for the early prediction of chronic kidney disease by analyzing the essential parameters and comparing their predictive accuracies. Then collaborate the best machine learning model to an interactive user-interface which helps in the early detection of CKD and provide cure.
4.	Social Impact / Customer Satisfaction	The main aim of this application is early prediction and proper treatments can possibly stop or slow the progression of this disease to the end stage.

5.	Business Model (Revenue Model)	We can generate revenue through direct customers or can also collaborate with the health care sector and generate revenue from their customers.
6.	Scalability of the Solution	We can build various models using machine learning algorithms and compare them to find the best accurate model. We can also use image data and apply Deep Learning techniques, Probabilistic Neural Networks(PNN), and Multilayer Perceptron(MLP) etc., which will provide an improved accuracy than the machine learning techniques.