Project Design Phase-I
Proposed Solution
Template

Team ID	PNT2022TMID15999
Project Name	Early Detection of Chronic Kidney Disease using Machine Learning
Maximum Marks	2 Marks

Proposed Solution :

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	Patients who suffer from chronic kidney diseases need a way to control its progression to an advanced state with early detection and appropriate treatment. Machine learning has advanced to the point that it is now possible to look through patient medical information and identify chronic kidney disease in its early stages.
2.	Idea / Solution description	Since certain data are missing, the initial step is to perform pre-processing by cleaning the dataset, along with scaling and normalisation of values. The next step is to use dimensionality reduction to identify the key features in the dataset and to remove any irrelevant ones. To accomplish early detection of chronic kidney disease utilising the indicated key traits, a decision tree model must be fitted.
3.	Novelty / Uniqueness	• An indicator of how well the kidneys is working is the amount of a waste product called creatinine in the blood. By examining this data, early kidney disease can be identified by detecting deviations from the norm. • In the case of healthcare

		management products, it is especially important to have a UI that is very user-friendly and open to everyone.
4.	Social Impact / Customer Satisfaction	The primary goal of this application is early prediction, and appropriate treatments may be able to prevent or delay the disease's progression to an advanced state.
5.	Business Model (Revenue Model)	• The suggested strategy has the potential to generate income from

		direct patients as payment for the development of immediate outcomes. • It can also collaborate with the healthcare sector to generate revenue from patients who come in for kidney disease diagnosis.
6.	Scalability of the Solution	• The dimensionality reduction process can be adjusted to produce precise predictions with an increase in the features taken into account. • The accuracy of many models can be compared in order to determine which is best. • It can be used for a variety of illnesses in addition to chronic disorders.