Project Design Phase-I
Proposed Solution Template

Date	19 September 2022
Team ID	PNT2022TMID20576
Project Name	Project –Early detection of chronic kidney disease
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 patient needs a way to detect chronic kidney disease at early stage accurately and cost effectively , so that the chances of curing the disease is high. • Therefore, machine learning techniques are of • great importance in the early detection of CKD. These techniques are supportive of • experts and doctors in early diagnosis to avoid developing kidney failure. • So, the objective of this research is to provide an effective model to predict the CKD by least number of predictors.
2.	Idea / Solution description	• Creating a machine learning model that uses the attributes of medical tests taken for different purposes to detect chronic kidney disease at early stage. • Evaluation is done on a patient's dataset containing 24 features like RBC count, blood pressure level, blood sugar level etc. • Deep Neural Network's accuracy can be achieved by increasing the number of hidden layers in the model.
3.	Novelty / Uniqueness	• In the proposed system we use a deep learning model which is called as Deep Neural Network which is

		suitable for accurate prediction. By using DNN, we can predict the chronic kidney disease with more than 95% of accuracy. In the DNN we have more hidden layers and hence its accuracy also high.
4.	Social Impact / Customer Satisfaction	• Since CKD is detected at early stages, there are high chances of curing the disease. This helps customer get right treatment at the right time.
5.	Business Model (Revenue Model)	• This is a cost effective model, because when the patient uses this model they don't have to spend copious amount of money just for initial diagnosis. • This model will identify and detect the kidney disease earlier so more number of clients will approach us and it makes more profit in both sides.
6.	Scalability of the Solution	• This model can be expanded to include more attributes for more accurate detection. Training the model with even more attributes will increase the efficiency further.