Ideation Phase
Define the Problem Statements

Date	15 October 2022
Team ID	PNT2022TMID06735
Project Name	Project – Early Detection of Chronic Kidney Disease using Machine Learning
Maximum Marks	2 Marks

Problem Statement:

Currently, there are many people who are suffering from chronic kidney diseases worldwide.. chronic kidney disease is a disorder that disrupts the normal kidney function that is among the top 20 causes of death worldwide and it affects approximately 10% of the world's adult population. Due to the increasing number of people with chronic kidney disease, effective predications measures for the early diagnosis of the CKD are required. The goal is to diagnose chronic kidney disease in its earliest stages using a diagnostic algorithm. The major problem that we are facing is that lack of ability to implement the huge datasets at the same time most of the algorithm will fail to give 100 percent accuracy about the prediction. Finding a solution for the above mentioned problems and riding out from disadvantages became a strong motive to conduct this study. Chronic Kidney Disease (CKD) is one of the types of kidney disease, which results in a gradual loss of kidney function. This phenomenon can be observed over a period of months or years due to several living conditions of patients. Kidney disease is broadly classified into acute kidney injury and chronic kidney disease. Acute kidney injury is sudden damage to the kidneys. In many cases it will be short term but, in some people, it may lead to long-term chronic kidney disease. Chronic kidney disease (CKD) means the kidneys are damaged and can't filter blood the way they should. The disease is called "chronic" because the damage to your kidneys happens slowly over a long period of time. The main causes are damaged blood vessels of the kidneys due to High Blood Pressure and Diabetes. Diagnosing CKD usually starts with clinical data, lab tests, imaging studies and finally biopsy. In this study, by using the machine learning techniques, we are proposing cheap, simple and non-invasive tests that can be performed easily. The data has been obtained from the dataset which is obtained from UCI machine learning repository for CKD patients. By this strategy, we hope to produce "down- staging" (increasing in the proportion of CKD detected at an early stage) of the disease to stages that are more amenable to curative treatment.

Problem Statement (PS)	I am (Customer)	I'm trying to	But	Because	Which makes me feel
PS-1	Patient	I'm trying to check whether I have kidney disease or not	I don't know what are the symptoms related to kidney disease	I Have No Assurance About Whether It Will Predict Correctly	It Makes Confused And Ruin My Patience
PS-2	Medical Researcher	I am Trying To Diagnose The Various Relationship With The Kidney Disease And The Related Problems And Their Major Symptoms	Difficulty in classifying and categorizing the dataset	There is no specific algorithms to handle such large number of data	It Makes Me To Work On The Large Dataset Earlier For The Correct Prediction To Avoid Frustrated Feel