Project Design Phase -1

Date	10 October 2022
Team ID	PNT2022TMID31064
Project Name	Early Detection of Chronic Kidney Disease using Machine Learning
Maximum Marks	2 Marks

Problem-Solution Fit

Define CS, fit into CC

1. CUSTOMER SEGMENT(S) — CS

Common persons who want to determine whether they have chronic kidney disease

6. CUSTOMER CONSTRAINTS — CC

If you have kidney disease, lowering your consumption of potassium, phosphorus, and sodium can be crucial to managing your condition. It is probably recommended to limit or avoid the foods with high potassium, salt, and phosphorus levels that are described above.

5. AVAILABLE SOLUTIONS — AS

People can test for indications of CKD at home with the Minuteful Kidney test app and kit and receive quick clinical findings. Kidney transplantation is a treatment option for those with significantly diminished kidney function in place of dialysis.

Focus on J&P, tap into BE, understand RC

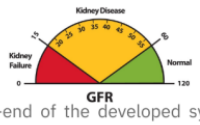
2. JOBS-TO-BE-DONE / PROBLEMS — J&P

The current GFR test may only reveal renal functioning rather than chronic kidney disease. The recipient and donor of a kidney transplant both experience severe agony.
In this instance, CKD causes mortality, which is a major worry.

9. PROBLEM ROOT CAUSE — RC

Finding a root cause of CKD is challenging because it has no symptoms. Early on, they would have missed it or dismissed it. Some of the underlying causes may include excessive blood sugar, high blood pressure, anaemia, inappropriate lifestyle and dietary choices.

7. BEHAVIOUR — BE



The front-end of the developed system will initially accept patient test results as input. The future is predicted by the ML model using the provided input. Users benefit much from it because it is easy to use and free.

Identify strong TR & EM

3. TRIGGERS — TR

When individuals have high blood pressure, high blood sugar, anaemia, etc., they might observe their buddies getting GFR tests. When abdominal pain occurs, people might get checked out.

4. EMOTIONS: BEFORE / AFTER — EM

People with CKD who experience pain may feel depressed, while those who are diagnosed and treated early on may feel pleased.

10. YOUR SOLUTION — SL

Early detection of CKD should be advantageous when using a web application since it enables healthcare professionals to start treating mild disease effectively, limiting kidney function loss, and delaying or preventing the development of renal failure.
"prevention is better then cure"

8. CHANNELS of BEHAVIOUR — CH

8.1 ONLINE

The patient must enter the relevant test data from their health check-up into the online web application in order for the machine learning model to provide a prediction.

8.2 OFFLINE CHANNELS

Patients must visit a hospital to complete their health examination, where the results are then transmitted by the Web application.