Project Design Phase-I - Solution Fit

Project Title: Early Detection Of Chronic Kidney Disease Using Machine Learning

Team ID: PNT2022TMID14240

Define CS, fit into CC

1. CUSTOMER SEGMENT(S) CS

- Doctors
- Individuals who work in the laboratory to diagnose chronic kidney disease
- Hospitals

6. CUSTOMER CONSTRAINTS CC

- Network Connection
- Inadequate software knowledge
- Time consuming

5. AVAILABLE SOLUTIONS AS

The currently available solutions use time-consuming basic machine learning models and datasets with a huge number of needless attributes.

Explore AS, differentiate

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

2. JOBS-TO-BE-DONE / PROBLEMS J&P

- Chronic Kidney Disease is a major concern for the global health care system.
- It typically takes a long time to diagnose kidney illness, which can result in major health issues and occasionally even death. So, in order to identify kidney disease early, we aim to develop stronger machine learning models.

9. PROBLEM ROOT CAUSE RC

It takes a long time to diagnose due to poorly chosen machine learning models' low detection accuracy and the dataset's high number of useless characteristics.

7. BEHAVIOUR BE

- Check twice before providing the diagnosis results
- Correctly provide the feature values in order to avoid true negatives and false positives

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

Identify strong TR & EM

3. TRIGGERS TR

- Increasing need for detecting kidney disease earlier
- Increasing death rates for kidney disease

4. EMOTIONS: BEFORE / AFTER EM

- Before : Takes more time for detection of kidney disease and has unwanted features and disease can be detected only at later stages
- After : Takes less time for detection and has only necessary features and disease can be detected at earlier stages to avoid deaths

10. YOUR SOLUTION SL

- Only certain attributes are selected using feature analysis and the proposed solution uses ensemble methods for analysis.
- Down staging (increasing the proportion of CKD detected at an early stage) is achieved.

8. CHANNELS of BEHAVIOUR

1. ONLINE CH

- Entering the right values for the attributes and applying it to the model to get right results

2. OFFLINE

- Manual checking
- Checking diagnosis results and choosing treatment methods

Extract Online and Offline CH of
