

Project design phase – I
Proposed Solution

Batch	B5-5M1E
Project Members	P Yamini, D Rithanya, B Rakshana, S Sangamithra
Project Name	Early Detection of Chronic Kidney Disease using Machine Learning
Project mentors	Industry mentor - Lalitha Gayathri Faculty mentor – Dr. Arulkumar V

Proposed Solution Template:

S. No	Parameter	Description
1.	Problem statement	<p>The Chronic Kidney disease is a progressive disease often resulting in leading cause of death in the world. There needs to be work done to help prevent the risks of having this. Therefore, early detection of this is necessary.</p> <p>Globally, in 2017, 1.2 million (95% uncertainty interval [UI] 1.2 to 1.3) people died from CKD. The global all-age mortality rate from CKD increased 41.5% (95% UI 35.2 to 46.5) between 1990 and 2017, although there was no significant change in the age-standardised mortality rate (2.8%, –1.5 to 6.3).</p> <p>To predict which patients are most likely to suffer from this disease in present as well as in the near future using the features given so that they can take educated, planned steps for the next phase of treatment.</p>

2.	Idea / Solution description	In this project, we plan to build an interactive dashboard for understanding and visualising chronic kidney diseases using this platform, in which we classify a person as prone to disease or not by considering various factors like age, blood pressure, RBC and maximum haemoglobin level etc
3.	Novelty / Uniqueness	<p>There is no further working models to predict with high accuracy. So, a model with better accuracy is aimed since false predictions results in unwanted fear and treatments.</p> <p>Finding the diseases in the early stages by predicting all possible outcomes in such a way by visualising the data obtained to educate the user easily and effectively</p>
4.	Social Impact / Customer Satisfaction	<p>Early prediction of the kidney disease helps the users to estimate the seriousness of the problem and allows the user to start the treatment in early stage of the disease to prevent from resulting in critical condition.</p> <p>Also helps in reducing the cost, travel time, and avoid the direct consultation with the doctors therefore providing a platform which is available for identification of disease 24/7.</p>
5.	Business Model (Revenue Model)	This system can be mainly used by Healthcare and Hospitals. They can have a track of the patient of their kidney condition before consulting the doctors. Even labs can use this application.

6.	Scalability	<p>This model will be initially used by a couple of users but when this model gets well-known to the environment the number of users will increase.</p> <p>Even we can include doctors for suggestion for the users, like what should be the next step after that user is being subjected to the kidney disease. As when the users get to know that doctors are suggesting, the popularity of this application increases which result vast users to use this model.</p> <p>Advertising is also another way of promoting this model by giving ads, conducting a campaign to create an awareness of kidney disease.</p>
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