Project Design Phase-II

SolutionRequirements

(Functional & Non-functional)

Date	17 October 2022
Team ID	PNT2022TMID41072
Project Name	Early Detection of Chronic Kidney Disease
Maximum Marks	4 Marks

Functional Requirements:

Following are the functional requirements of the proposed solution.

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	Home Page (Login Page)	• Introduction page of the website. • Symptoms and steps to cure will be displayed. • If the user already exists asks to **login** or else redirects to **Sign Up.**
FR-2	User Sign Up Page	The user had to enter the username, phone number and password.
FR-3	User Verification	After getting the phone number the OTP will be sent via SMS and it will be verified.
FR-4	Dataset Collection	Collect the data set of Chronic Kidney Disease patients and pre-process the data.
FR-5	Training the Model	By using the pre-processed data, we can train the model by using Deep Neural Networks.
FR-6	Testing the Model	By using 20% of dataset the model will be tested.
FR-7	Prediction	The results are predicted from the collected data by testing the model.

Non-functional Requirements:

Following are the non-functional requirements of the proposed solution.

FR No.	Non-Functional Requirement	Description

NFR-1	**Usability**	Creating a machine learning model that uses the attributes of medical tests taken for different purposes to detect chronic kidney disease at early stage.
NFR-2	**Security**	The reports are maintained confidentially to thecustomer.

NFR-3	**Reliability**	Earlier prediction can save the life of many users who may be affected by the CKD, hence this model produces the reliable results.
NFR-4	**Performance**	By using DNN, we can predict the chronic kidney disease with more than 98% of accuracy. In the DNN we have more hidden layers and hence its accuracy also high.
NFR-5	**Availability**	It is built as an User Interface(UI) that acts as a website which is trained to predict the CKD.
NFR-6	**Scalability**	The Chronic Kidney Disease prediction model is scalable because more number of features are added and if number of users increases also it can predict the result efficiently.