

Project Design Phase-II

Technology Stack (Architecture & Stack)

Date	18 October 2022
Team ID	PNT2022TMID04381
Project Name	Early Detection of Chronic Kidney Disease using Machine Learning

Technical Architecture:

The Deliverable shall include the architectural diagram as below and the information as per the table1 & table 2

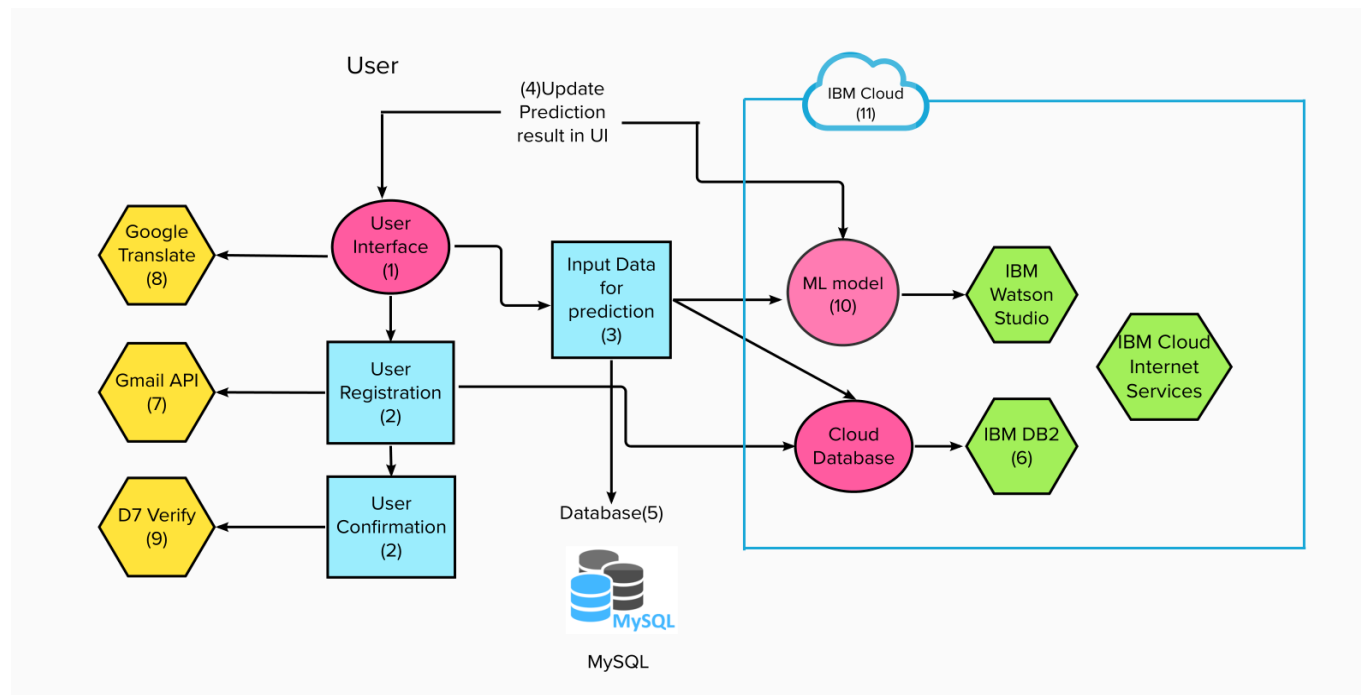


Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	How a user interacts with an application, for example UI for the web, mobile apps, chatbots, etc.	HTML, CSS, JavaScript
2.	Application Logic-1	Users can sign up for the website application and getting the corresponding confirmation.	HTML forms and Mail
3.	Application Logic-2	To anticipate the disease, the user enters the information to predict the disease using the application.	Machine Learning with Python
4.	Application Logic-3	The disease prediction result is updated in the Web interface for the user to see the output.	Python
5.	Database	The user data is stored in a relational database structure.	MySQL
6.	Cloud Database	Use IBM Cloud for Database Service.	IBM DB2
7.	File Storage	Allowing users to register using their Google account.	Gmail API
8.	External API-1	Making the website available in multiple languages languages.	Google Translate
9.	External API-2	Use a one-time password to confirm the users (OTP).	D7 Verify
10.	Machine Learning Model	Chronic Kidney Disease (CKD) prediction using different input variables.	Logistic Recognition Model, etc.
11.	Infrastructure (Server / Cloud)	Application Deployment on Cloud.	IBM Cloud

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	The open source Python frameworks are used to construct the web application as well as model for Machine Learning.	Python Flask,Numpy,Scikit-Learn,etc.,
2.	Scalable Architecture	The three-tier architecture with a separate user interface,application tier and data tier allows for easy scalability.	IBM Watson Studio
3.	Availability	The web application is extremely accessible as it is deployed in the cloud.	IBM Cloud
4.	Performance	The website's performance is enhanced with security and caching.	IBM Cloud Internet Services