Project Design Phase-II
Technology Stack (Architecture & Stack)

Team ID	PNT2022TMID43741
Project Name	Project – Crude Oil Price Prediction
Maximum Marks	4 Marks

Technical Architecture:

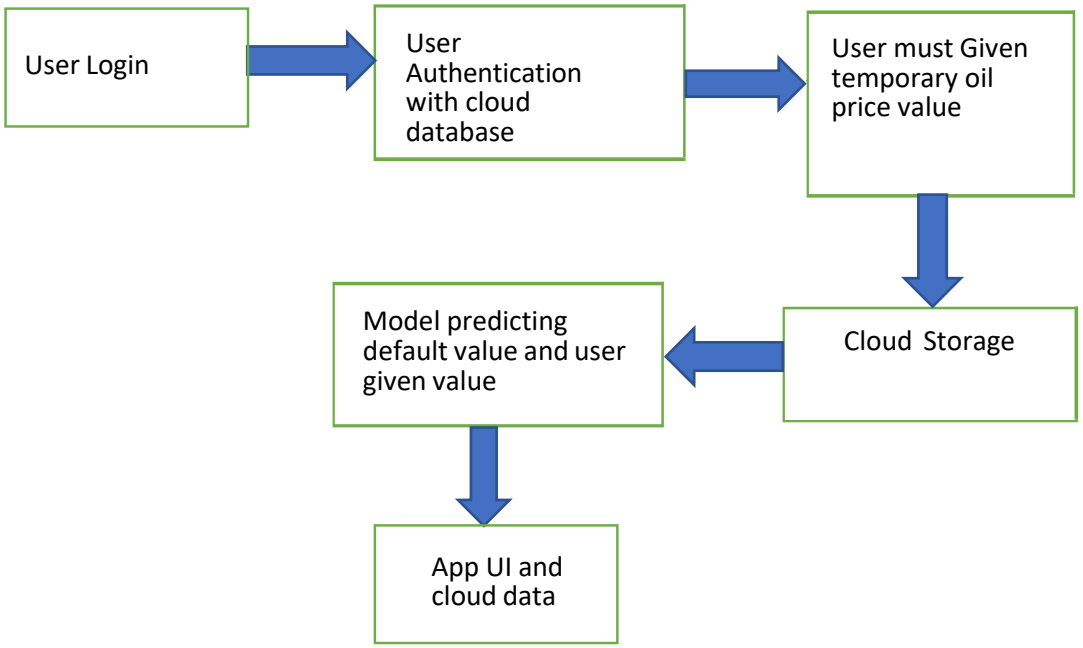

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	Web application	HTML, CSS, JavaScript ,Angular Js
2.	Application Logic-1	Logic for a process in the application	Python
3.	Application Logic-2	Logic for a process in the application	IBM Watson Assistant
4.	Database	Data Type, Configurations	MySQL
5.	Cloud Database	Database Service on Cloud	IBM cloud
6.	File Storage	File storage requirements	IBM Block Storage,Local Filesystem
7.	External API-1	Purpose of External API used in the application	Firebase
8.	Machine Learning Model	Purpose of Machine Learning Model	Recurrent neural network & LSTM
9.	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud Local Server Configuration: Cloud Server Configuration :	Local, Firebase.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks-1	Python,	Pandas, flask, numpy, tensorflow
2.	Open-Source Frameworks-2	JavaScript ,Angular Js.	App module,component module
3.	Security Implementations	User data will be stored according to CIA model.	End to end encrpytion (SHA- 256)
4.	Scalable Architecture	IBM cloud and firebase both used for better performance in storage and authentication.	IBM watson , Firebase, Mysql
5.	Availability	Handle huge requests,avoid DDOS and XSS attack.	Effective coding and restrictive user access based on need
6.	Performance	Handle more than 1000 users to use server at a time.	Flask