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

Date	03 October 2022
Team ID	PNT2022TMID03401
Project Name	AI Powered- Food Demand Forecaster
Maximum Marks	4 Marks

Technical Architecture:

User

IBM Cloud

Admin

Feature Engineering

Linear Regressor

Cloud

App UI

Enter region and timeframe details

1

2

3

Data Transformation

4

5

6

Advanced Regressors
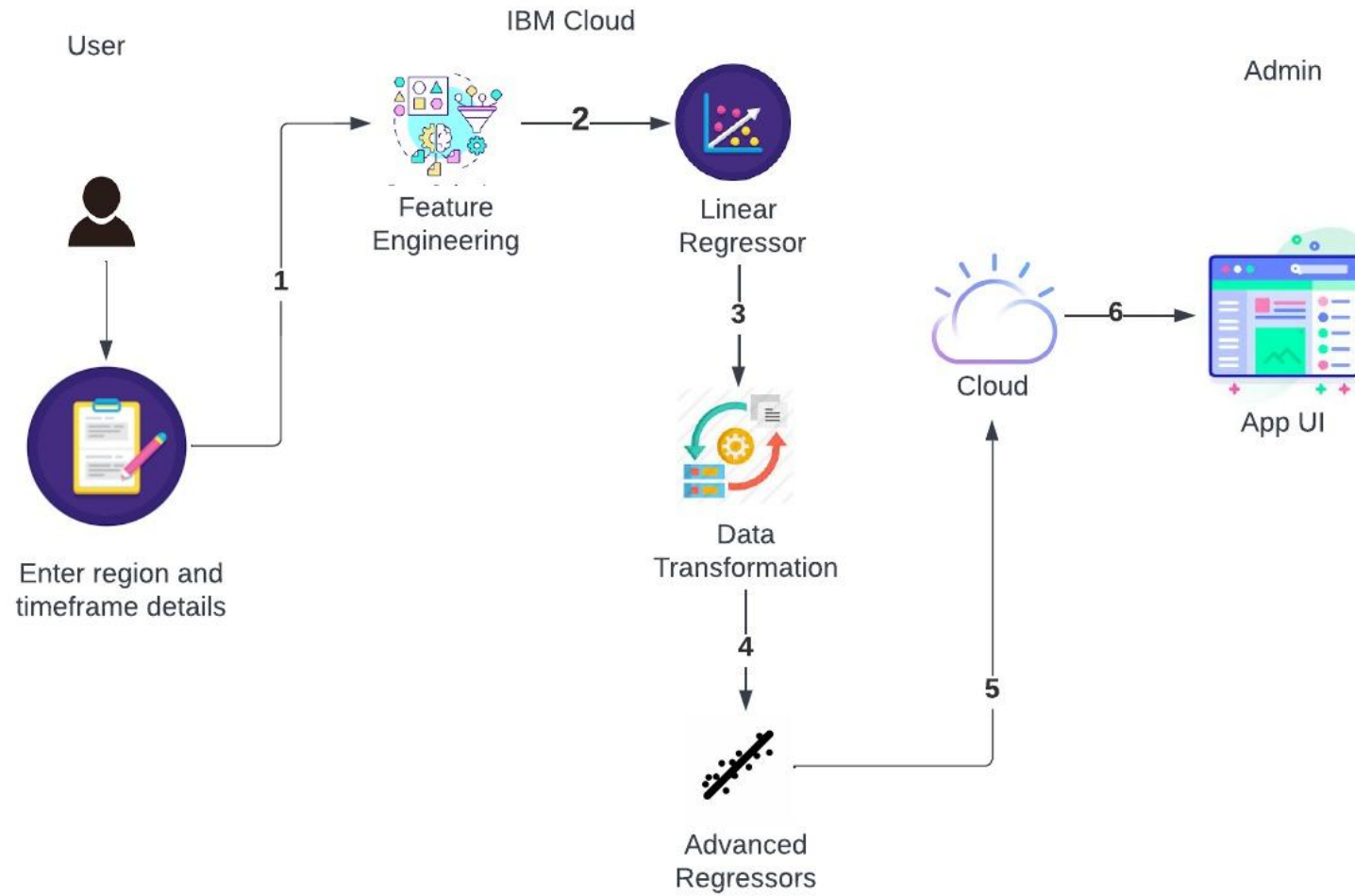
Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	User Interface for Food Demand Prediction which asks for registration credentials and requirement details.	HTML, CSS, JavaScript
2.	Input and output	Gets inputs(region and timeframe) from user and displays the output using python. It uses get and post http methods in backend for processing.	Python
3.	Libraries	Python libraries like Numpy, pandas, matplotlib, sklearn, seaborn for processing the dataset.	Google Colab
4.	Algorithm	Linear model using linear regression and advanced model using XGBoost, CATBoost and LightBoost regression are implemented.	Regression models and ensemble techniques.
5.	Database	Csv file	
6.	Machine Learning Model	Regression models are used to increase the speed at which data is processed and analysed.	Advanced Regression models.

Table-2: Application Characteristics:

S.No	Characteristics	Description
1.	Scalable Architecture	Highly-customizable infrastructure according to specific customer's needs
2.	Availability	The system is monitored for bugs and so it is highly reliable.
3.	Performance	Feature Engineering extracts valuable features from raw data which significantly improves the efficiency.