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

Date	01 October 2022
Team ID	PNT2022TMID03205
Project Name	Project - Global Sales Data Analytics
Maximum Marks	4 Marks

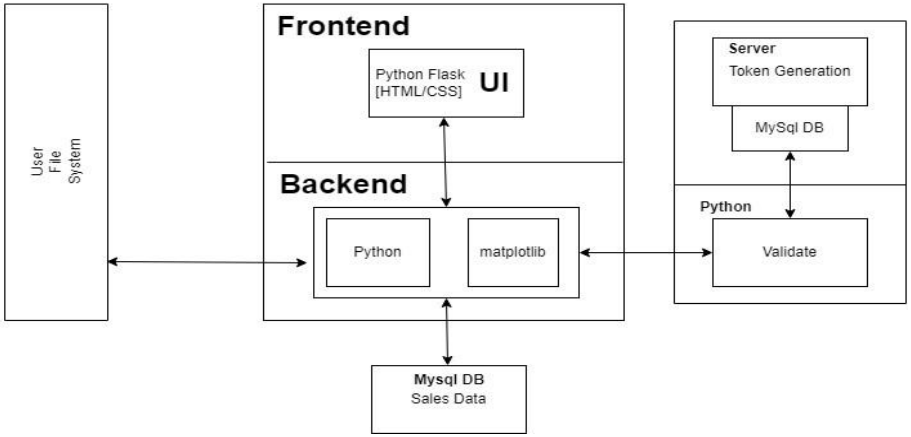
Technical Architecture:

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

Example: Order processing during pandemics for offline mode

Reference: https://developer.ibm.com/patterns/ai-powered-backend-system-for-order-processing-during-pandemics/

Tech Stack Diagram



Guidelines:

1. Include all the processes (As an application logic / Technology Block)
2. Provide infrastructural demarcation (Local / Cloud)
3. Indicate external interfaces (third party API's etc.)
4. Indicate Data Storage components / services
5. Indicate interface to machine learning models (if applicable)

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	Python flask [HTML / CSS] is used for developing the User Interface for the Analysis. User Interacts with a web based UI.	Python flask, HTML, CSS.
2.	Application Logic-1	Get the user input from user, Validate it data for its correctness. If invalid, show error.	Python
3.	Application Logic-2	Clean the validated data, If a value is Infinite, NULL, NaN etc., we need to convert it to an identity value of that data type or the operation to be performed	Python
4.	Application Logic-3	Prepare the data in correct format for analysis. Modify the input data to an Object format or any other format which is comfortable for doing analysis.	Python
5.	Database	Store manual insights from users[String] Insights ID [String] Analysis ID [String] Diagram ID [String]	Mysql
6.	Cloud Database	Store token generated for activation[String]	Mysql Community edition.
7.	File Storage	Store necessary files on the client's pc, like already performed analysis or insights etc.	Local file System
8.	External API-1	To get fonts from external sources, which can be cached.	Google Fonts API.
9.	External API-2	No API-2 needed	nil
10.	Machine Learning Model	To identify previously similar insights. (optional)	K-Nearest Neighbours model
11.	Infrastructure (Server / Cloud)	Application Deployment on Local System Local Server Configuration (expected) :	Local / Cloud Foundry etc.,

		SECRET_KEY = environ.get('SECRET_KEY') FLASK_ENV=’development’ DEBUG=True TESTING=True DATABASE_URI=environ.get(‘DATA_URI’) Application Deployment on Cloud System Cloud Server Configuration (expected) : SECRET_KEY = environ.get('SECRET_KEY') FLASK_ENV=’production’ DEBUG=False TESTING=False DATABASE_URI=environ.get(‘DATA_URI’)	
12.	Dependency	Generate graphs using matplotlib to visualize the output	Matplotlib
13.	Activation of software	Generate Tokens using UUID and validate the activation of the software	UUID

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Python flask for building user interface. Matplotlib is used to generate visualization. MySQL is used has primary database.	Python flask ,Matplotlib, MySQL Community edition.
2.	Security Implementations	UUID – one time activation	UUID
3.	Scalable Architecture	The Solution Depends on client devices so it is by default scalable.	nil
4.	Availability	This Service is available as long as the activated device functions. The service doesn’t extend to multiple devices.	nil
5.	Performance	Efficient code with better use of DSA.	nil