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

Date	4th November 2023
Team ID	Team-591689
Project Name	Smart Lender - Applicant Credibility Prediction for Loan Approval
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/

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	Web UI	HTML, CSS, JavaScript
2.	Application Logic-1 (Pre-Processing of Data Set)	Pre-processing is the important works to be done in the Dataset	Python, Pandas, NumPy, Scikit learn
3.	Application Logic-2 (Model Building)	Constructing a ML model to detect the Loan Defaulters.	Python, Pickle, Pandas, Scikit learn
4.	Application Logic-3 (Creating Web UI)	User for the User interaction	HTML, CSS, JavaScript
5.	Dataset	Dataset is collected	IBM
6.	Cloud Database	User for hosting the Web UI and also the exchange of Data	IBM Cloud
7.	File Storage	The dataset and source code are stored in files	IBM Block Storage or Other Storage Service or Local Filesystem
8.	Machine Learning Model	To find the Loan Defaulters	Python, Scikit learn

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Used for model building, package manager, code development, data analysis and evaluation	VS code, Python, Flask, Scikit – Learn, Pandas, NumPy, Matplotlib, Seaborn
2.	Buoyant	Can be trained for more accuracy	Python, Scikit - Learn
3.	Operability	Use a highly available server for deployment	IBM Cloud
4.	Execution	Web UI and Model	HTML, CSS, JS, Scikit - Learn
5.	Performance	Could yield results within seconds	Python, Flask and pickle

References:

https://c4model.com/

https://developer.ibm.com/patterns/online-order-processing-system-during-pandemic/

https://www.ibm.com/cloud/architecture

https://aws.amazon.com/architecture

https://medium.com/the-internal-startup/how-to-draw-useful-technical-architecture-diagrams-2d20c9fda90d