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

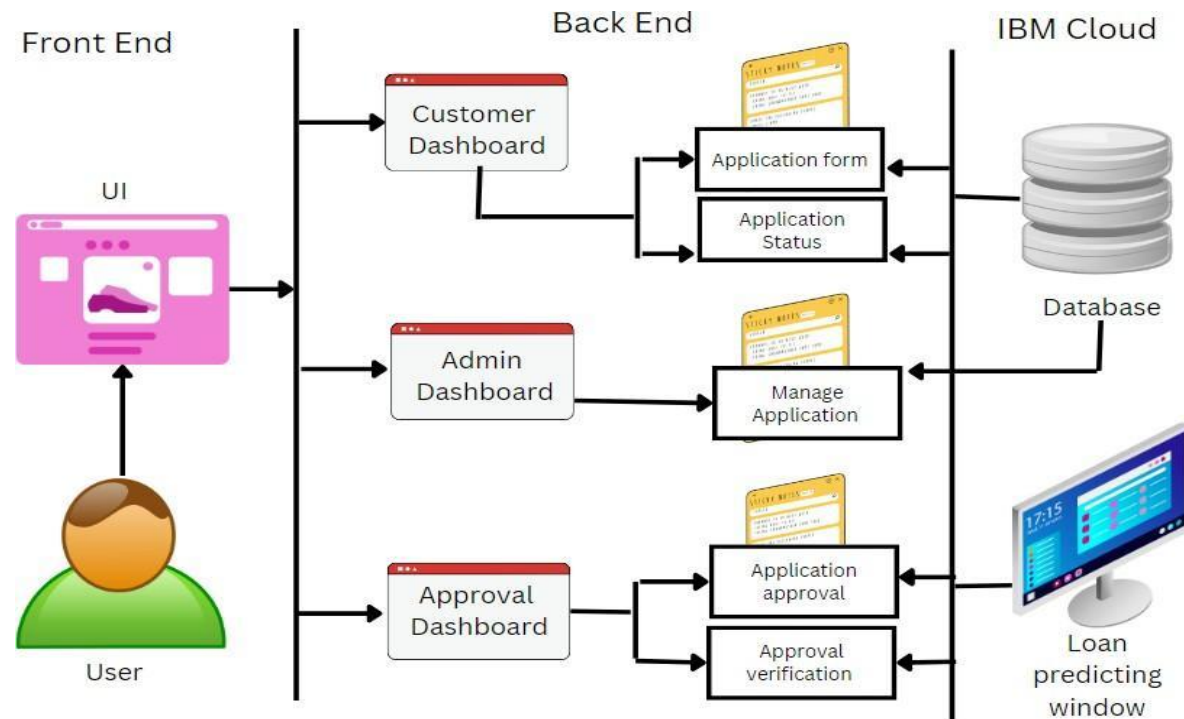| Date	03 October 2022
Team ID	PNT2022TMID10667
Project Name	Smart Lender - Applicant Credibility Prediction for Loan Approval
Maximum Marks	4 Marks

Technical Architecture:

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	Client, Administrative, and Loan Approval Officers will be able to register, login, and use the features that are offered to them.	HTML, CSS, Javascript
2.	Building Application	Getting user information from UI and feeding it to ML model.	Python Flask
3.	Application Filing	Available to customers only, this screen allows customers to fill details in an online application for loan approval.	HTML, CSS
4.	View Application Status	View pertinent information relevant to the applications.	HTML, CSS
5.	Visualizing and analyzing data	Reading and understanding the data properly with the help of visualization and analyzing techniques.	Python pandas, NumPy, pickle, matplotlib, seaborn
6.	Smart Application Approval	Performs automated loan approval decision and gives details supporting decision	Javascript, Python
7.	Cloud Database	Database services on Cloud, Deploying rhe model on cloud.	IBM Cloud
8.	Machine Learning Model	Automated decision making for loan approval a giving details for decision.	Model building using classification algorithms such as Decision tree, Random forest, KNN, and xgboost

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	The website is hosted using Flask. Open source Python machine learning frameworks include scikit, numpy, and tensorflow.	Scikit, Numpy, Flask
2.	Security Implementations	Symmetric key encryption is one of the numerous cryptographic procedures supported by the software and library.	IBM Cloud provides layered security controls across networks and infrastructure.
3.	Scalable Architecture	Application servers can be installed on several devices. Additionally, the database only needs connections from a smaller number of application servers; it does not establish lengthier connections with each client. Data integrity is enhanced.	3 Tier Architecture
4.	Availability	The service is extremely accessible because to decentralized storage and distribution, as well as a web application strategy.	IBM Cloud file storage, HTML, CSS, JavaScript
5.	Performance	Long term header expiration.	Python