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

Date	03 October 2022
Team ID	PNT2022TMID35767
Project Name	Project - Smart Lender – Applicant Credibility Prediction For Loan Approval
Maximum Marks	4 Marks

Technical Architecture:

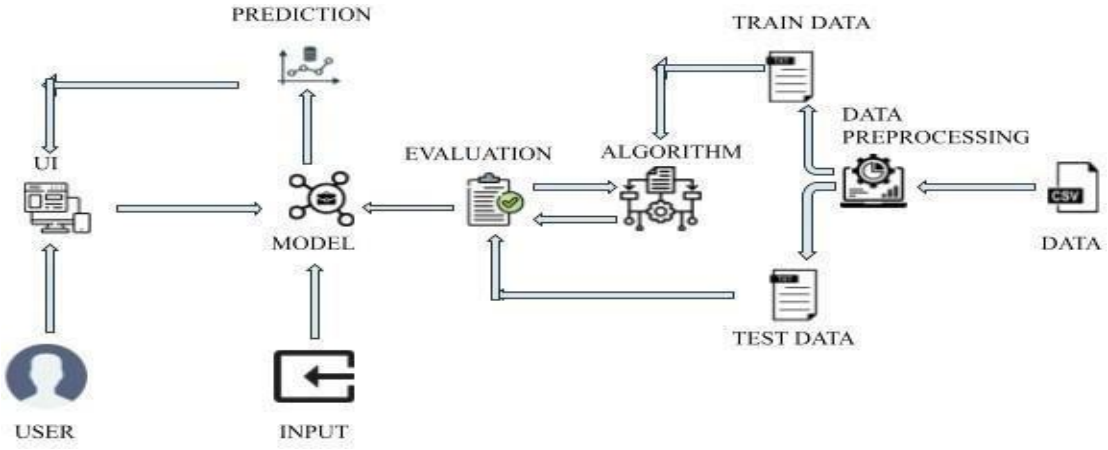

Table-1 : Components & Technologies:

S. No	Component	Description	Technology
1.	User Interface	Users interact with the application with the help of a web UI.	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	JavaScript
4.	View Application Status and Manage Applications	View pertinent information relevant to the application and Ability to modify applications asand when needed. Can be accessed by admin only.	JavaScript
5.	Database	Loan Approval dataset.	csv file
6.	Cloud Database	Deploying the model on cloud	IBM cloud
7.	File Storage	Network File System(NFS)	Network File System(NFS)
8.	Visualizing and analysing data	Reading and understanding the data properly with the help of visualization and analysing techniques	Python pandas, numpy, matplotlib,seaborn
9.	Pre-processing or cleaning data	Handling missing values, Handling categorical data, Handling outliers, Scaling Techniques	Python pandas
10.	Machine Learning Model	Using machine learning model for predicting loan approval	Using machine learning model forpredicting loan approval
11.	Infrastructure (Server / Cloud)	Default	Flask

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Open-Source Frameworks Flask is used to host the website. Scikit, numpy and tensorflow are all open source python machine learning frameworks.	Scikit, Numpy
2.	Security Implementations	OpenSSL is a program and library that supports many different cryptographic operations, including: Symmetric key encryption. Public/private key pair generation. Public key encryption. Hash functions.	OpenSSL Encryption
3.	Scalable Architecture	Since the application servers can be deployed on many machines. Also, the database does not make longer connections with every client – it only requires connections from a smaller number of application servers. It improves data integrity.	3 Tier Architecture
4.	Availability	Decentralized storage and distribution along-with web application approach make the service highly available.	IBM Cloud file storage, MySQL Online
5.	Performance	Long term header expiration. Cacheable AJAX Cookie Free Domain Compress zip components.	AJAX, CDN