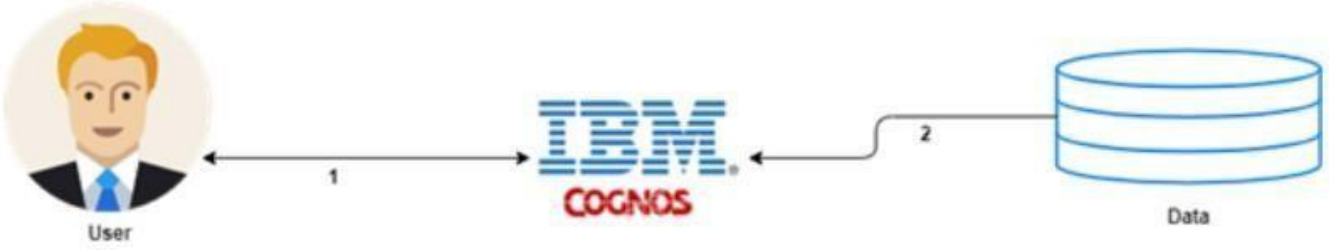
Technology Architecture

Team ID	PNT2022TMID27559
Project Name	Analytics for Hospital's Healthcare Data
Maximum Marks	4 Marks

Technical Architecture:



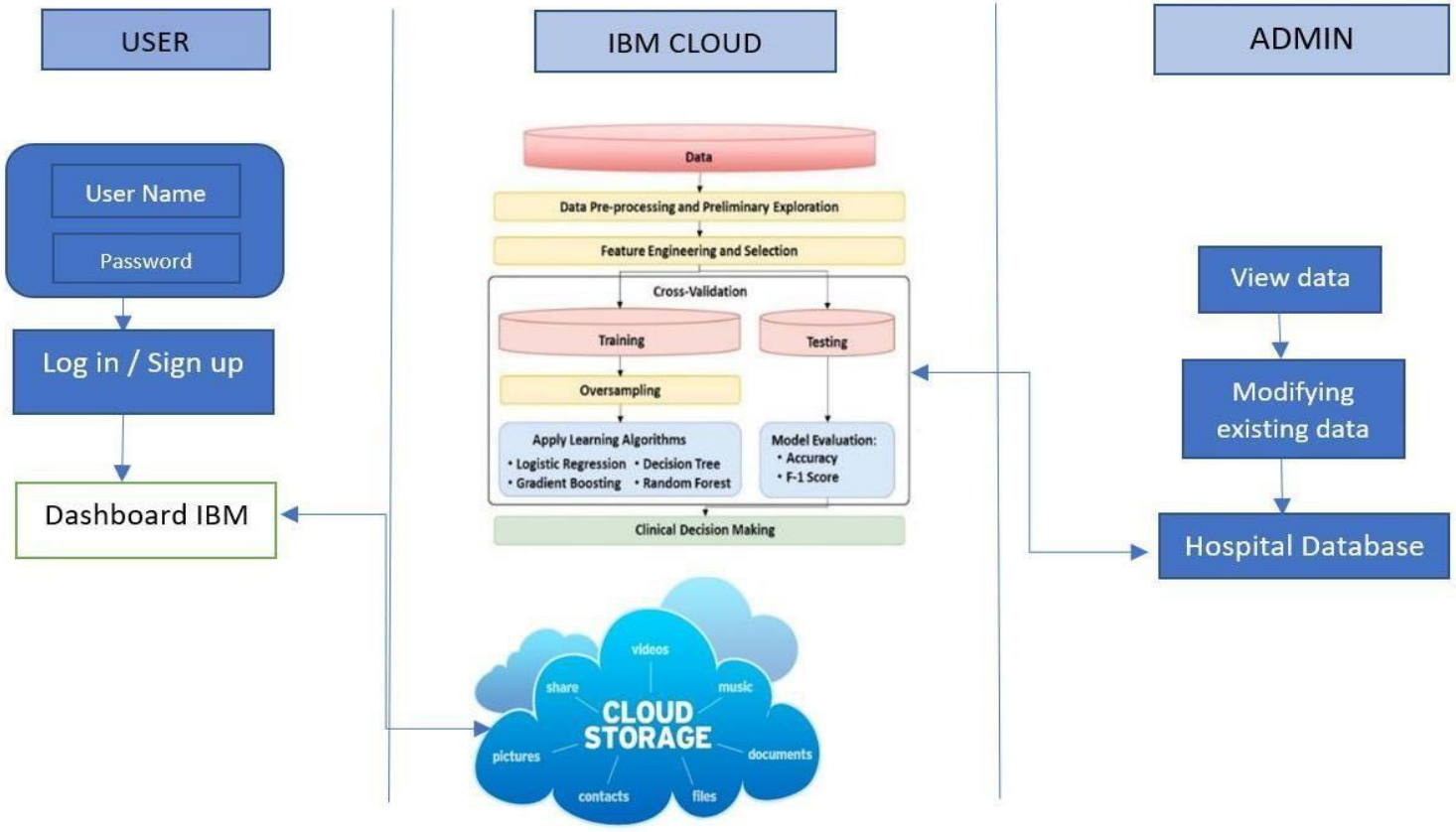

USER
IBM CLOUD
ADMIN
User Name
Password
Log in / Sign up
Dashboard IBM
Data
Data Pre-processing and Preliminary Exploration
Feature Engineering and Selection
Cross-Validation
Training
Testing
Oversampling
Apply Learning Algorithms
• Logistic Regression • Decision Tree
• Gradient Boosting • Random Forest
Model Evaluation:
• Accuracy
• F-1 Score
Clinical Decision Making
videos
share
music
CLOUD STORAGE
pictures
documents
contacts
files
View data
Modifying existing data
Hospital Database

Table-1 : Components & Technologies:

S. No	Component	Description	Technology
1.	User Interface	How the user interacts with the application e.g.Web UI, Mobile App, Chatbot, etc.	HTML, CSS, JavaScript.
2.	Application Logic-1	Logging in as a patient/user in the application	Python
3.	Application Logic-2	Logging in as an admin in the application	IBM Watson Assistant
5.	Database	All the data about patients such as disease, address, etc.	MySQL
6.	Cloud Database	IBM Watson cloud is used for storage, Cloud	IBM DB2, IBM Cloudant etc.
7.	External API-1	Purpose of External API used in the application	Aadhar API, etc.
8.	Machine Learning Model	Purpose of Machine Learning Model	Regression Model, etc.
9.	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud Local Server Configuration, Cloud Server Configuration	Local, Cloud Foundry, Kubernetes, etc.

Table 2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	List the open-source frameworks used	Python
2.	Security Implementations	List all the security/access controls implemented, use of firewalls, etc.	Encryption.
3.	Scalable Architecture	Justify the scalability of architecture (3 – tier, Micro-services)	Can support higher workloads
4.	Availability	Justify the availability of applications (e.g. useof load balancers, distributed servers, etc.)	Highly available
5.	Performance	Design consideration for the performance of the application (number of requests per sec, use of Cache, use of CDNs), etc.	It performs well and scientifically uses various tools and ideas to meet thedesired outcomes