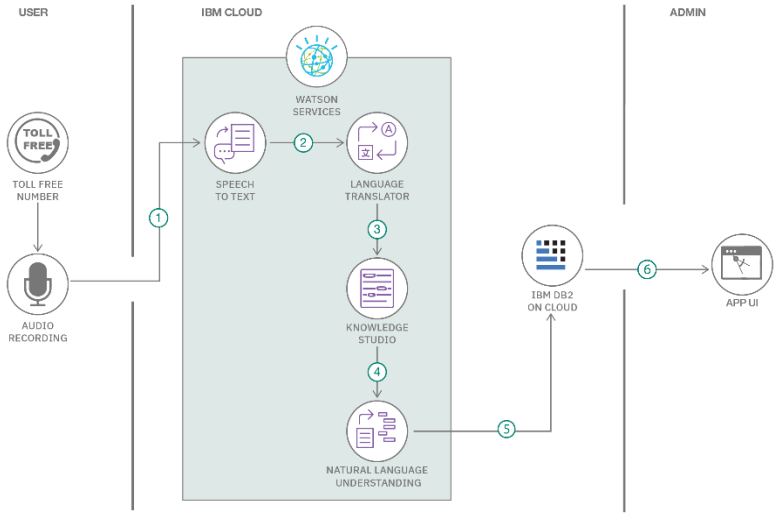
Project Design Phase-II

Technology Stack (Architecture & Stack)

Date	03 October 2022
Team ID	PNT2022TMID15570
Project Name	Project - Developing a Flight Delay Prediction Model using Machine Learning
Maximum Marks	4 Marks

Technical Architecture:

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



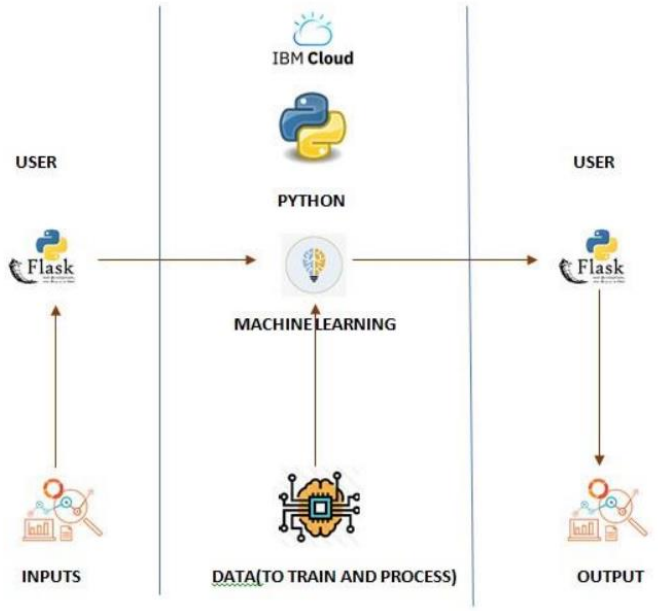


Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	How user interacts with application e.g. Web UI, Mobile App, Chatbot etc.	Python-Flask
2.	Application Logic-1	Logic for a process in the application	Python
3.	Application Logic-2	Logic for a process in the application	IBM Watson STT service
4.	Application Logic-3	Logic for a process in the application	IBM Watson Assistant
5.	Database	Data Type, Configurations etc.	MySQL
6.	Cloud Database	Database Service on Cloud	IBM DB2
7.	File Storage	File storage requirements	IBM Block Storage
8.	External API-1	Purpose of External API used in the application	IBM Weather API
9.	External API-2	Purpose of External API used in the application	Flight confirmation API
10.	Machine Learning Model	Purpose of Machine Learning Model	Evaluation and prediction model

11.	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud Local Server Configuration: Cloud Server Configuration :	IBM cloud

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
12.	Open-Source Frameworks	List the open-source frameworks used	Python flask
13.	Security Implementations	List all the security / access controls implemented, use of firewalls etc.	Encryption, IAM controls
14.	Scalable Architecture	Justify the scalability of architecture (3 – tier, Micro-services)	Python
15.	Availability	Justify the availability of application (e.g. use of load balancers, distributed servers etc.)	IBM cloud
16.	Performance	Design consideration for the performance of the application (number of requests per sec, use of Cache, use of CDN's) etc.	Python