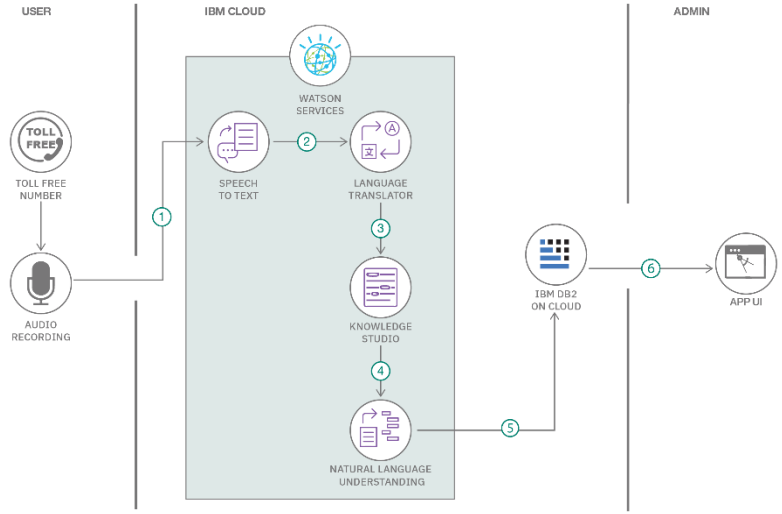
Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	9 November 2023
Team ID	592865
Project Name	AIRLINE REVIEW CLASSIFICATION
Maximum Marks	4 Marks

Technical Architecture:

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



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	Implement a user interface that allows a users to enter text reviews and receive a predictions of satisfaction levels in real time	HTML, CSS, BOOTSTRAP, React JS Java Script, Mongo DB, Express JS.
2.	Application Logic	We have to collect review from users and we have to separate the good reviews and Bad reviews. we have to forward bad reviews superior	python
3.	Data Base	We have to collect the dataset for the Airline Review Satisfaction	File Manager, Kaggle (online Platform), MySQL…etc
4.	File Storage	We need Storage space to store the dataset of the Airline Review Satisfaction	Google Drive etc..
5.	Machine Learning Model	We use Machine Learning Model for the text classification	Decision tree Classifier, Nearest Neighbours, Logistic Regression etc...

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Customer Segmentation	Identifying customer groups based on their review sentiments.	Natural language processing (NLP), Machine learning (ML)
2.	Product Improvement	Analysing negative reviews to identify areas for improvement in airline products, services, and processes.	NLP, ML, sentiment analysis
3.	Fraud detection	Detecting and flagging potentially fraudulent reviews.	NLP, ML and Text classification
4.	Revenue optimization	Identifying aspects of the airline experience that are most valued by customers and prioritizing investments in those areas to drive revenue growth.	NLP, sentiment analysis, recommendation systems
5.	Emotion Detection	Identifies specific emotions expressed in reviews, such as happiness, anger, or frustration, providing a deeper understanding of customer experiences.	NLP, Emotion Recognition techniques
6.	Competitive analysis	Comparing airline review sentiment across competitors to identify strengths and weaknesses.	NLP, sentiment analysis, competitive intelligence

References:

https://link.springer.com/article/10.1186/s40537-019-0224-1
https://ieeexplore.ieee.org/abstract/document/9667818
https://www.sciencedirect.com/science/article/pii/S1877050923002211