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

Date	13 May 2023
Team ID	NM2023TMID02778
Project Name	Identifying Airlines Passenger Satisfaction Using Machine Learning

Technical Architecture:

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

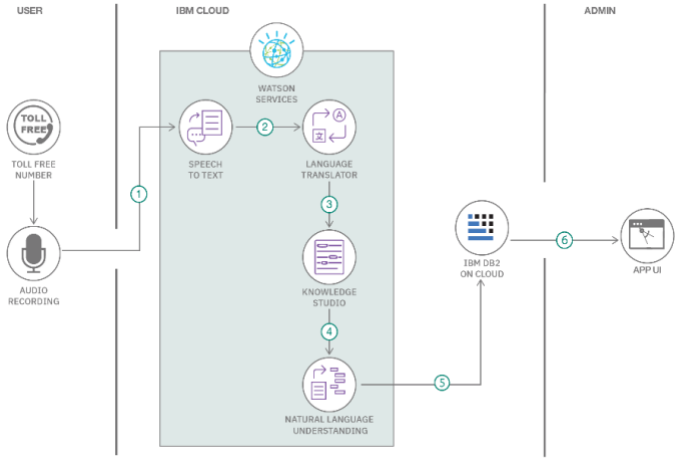

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	Customer Feedback Collection System	A system for collecting feedback from customers about their experience with the airline.	online surveys, email, phone, or in-flight feedback forms.
2.	Data Analytics Tools	Tools to analyze the feedback data and derive insights that can help improve the customer experience.	sentiment analysis, text analytics, and data visualization.
3.	CRM System	A customer relationship management system to manage customer interactions and data.	Customer relationship management software
4.	Personalization Engine	system to personalize the customer experience based on their preferences and past behaviour.	AI personalization uses machine learning, natural language processing (NLP)
5.	Mobile App	An airline mobile app that allows customers to book flights, check flight status, and access personalized offers and services.	Java, Kotlin, Python, R programming, C++, HTML5, and C#
6.	Loyalty Program	A loyalty program that rewards customers for their loyalty to the airline.	QR codes, NFC, or RFID to enable easy scanning.
7.	Social Media Monitoring Tools	Tools to monitor social media platforms for customer feedback and complaints.	Hootsuite. Arguably
8.	Customer Service Chatbot	A chatbot that can assist customers with basic inquiries and tasks, such as checking	Chatbot technology, natural language processing

		flight status, booking changes, and baggage allowances. The chatbot can be integrated into the airline website, mobile app, and social media platforms.	
9.	Wi-Fi and In-flight Entertainment System	A Wi-Fi and in-flight entertainment system that provides a seamless and enjoyable experience for customers during their flight. This can include access to movies, TV shows, music, and games.	IEEE 802.11: WiFi In-flight entertainment systems, Wi-Fi technology
10.	Baggage Tracking System	A system to track and manage customers' checked baggage. This can provide customers with real-time updates on the location and status of their baggage, reducing the risk of lost or delayed baggage.	Baggage tracking technology

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Accessibility	The system should be easily accessible to customers across various channels, such as mobile apps, websites, social media, and in-flight. It should also be accessible to customers with disabilities.	Mobile apps, responsive web design, social media platforms, in-flight Wi-Fi

S.No	Characteristics	Description	Technology
2.	Reliability	The system should be reliable and available to customers 24/7, without any downtime or glitches. The system should also be able to handle a large volume of traffic and customer interactions.	Cloud computing, load balancers, redundancy and failover systems
3.	Security	The system should be secure and protect customer data and privacy. This includes measures such as encryption, secure login, and protection against hacking and cyber attacks.	Encryption, secure login, firewalls, intrusion detection and prevention systems
4.	Usability	The system should be easy to use and navigate for customers of all ages and technical backgrounds. This includes clear and simple interfaces, easy-to-understand instructions, and intuitive design.	User-centered design, responsive design, intuitive interfaces
5.	Personalization	The system should be able to personalize the customer experience based on their preferences and past behaviour. This includes personalized offers, seat assignments, and in-flight entertainment options.	Customer profiling, machine learning, recommendation algorithms