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

Date	12 October 2022
Team ID	PNT2022TMID27252
Project Name	Machine Learning-Based Predictive Analytics for Aircraft Engine.
Maximum Marks	4 Marks

Table- 1: Components & Technologies

S. No	Component	Description	Technology
1.	User Interface	The service provider will have better control over any safety hazards associated with the interfaces if they can detect and manage these interfaces.	HTML, CSS
2.	Data Processing	The gathering of information from various on-board sources, including aircraft interface devices.	Pandas, Numpy, Matplotlib, Seaborn, Python Flask
3.	Cloud Database	The dataset is stored on IBM Cloud.	IBM Cloud
4.	Machine Learning Model	ML Models can allow software applications to become more accurate at predicting outcomes without being explicitly programmed to do so.	Sklearn, ML Algorithms- Logistic Regression, SVM.
5.	Prediction	Utilizing machine learning to predict engine failure in order to prevent waste of time and money, increase productivity, and notify the user.	SendGrid

Table-2: Application Characteristics:

S. No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Open-source frameworks used	SendGrid, Python Flask, BootStrap
2.	Security Implementations	Request authentication using Encryptions	SSL Certificates, Encryptions
3.	Scalable Architecture	The scalability consists of 3- tiers	Web Server- HTML, CSS Application Server- Python Flask Database Server- IBM Cloud
4.	Availability	The application is available for cloud users	IBM Cloud Hosting
5.	Performance	5000 object read requests per second	IBM Load Balancer

Technical Architecture: