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

Date	18 October 2022
Team ID	PNT2022TMID30287
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	It can identifying and managing these interfaces the service provider will have more control over any safety risks related to the interfaces.	HTML, CSS, JavaScript, BootStrap, JQuery, ReactJS
2.	Data Processing	The aggregation of data from multiple sources onboard the aircraft, 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, Random Forest, Decision Tree
5.	Prediction	To predict the failure of an engine by using Machine Learning to save loss of time & money thus improving productivity and send the message to the user.	SendGrid

Table-2: Application Characteristics:

S. No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Open-source frameworks used	SendGrid, Python Flask, BootStrap, JQuery, ReactJS
2.	Security Implementations	Request authentication using Encryptions	SSL Certificates, Encryptions
3.	Scalable Architecture	The scalability consists of 3- tiers	Web Server- HTML, CSS, Javascript 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: