Proposed Solution

Date	16 October2022
Team ID	PNT2022TMID03696
Project Name	Predictive Analytics for Aircraft Engines
Maximum Marks	2

Proposed Solution:

S. No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	There can be various factors in which aircraft engines malfunctions, the main motive of the project is to predict the cause of the failure to improve the quality of flying experience and extricate capital loss.
2.	Idea / Solution description	The project aims to predict the failure of an engine by taking engine parameters, flight trajectory and other external testing parameters using Machine Learning to save loss of time & money thus improving productivity.
3.	Novelty / Uniqueness	Suggestion of remedy measures for the engine failure while comparing with the threshold values of various parameters that are involved in predicting the engine state.
4.	Social Impact / Customer Satisfaction	As the failure of a particular engine segment is previously predicted one could have an idea to use the affected hardware aptly and this could drastically reduce the loss of life. On encountering the plane crash, one could observe the ecosystem surrounding the crash would be seriously affected due to leakage and various chemical emission. Bird strikes occur at various wing and fuselage locations, but they usually inflict most damage to the jet engines, composed as they are of intricate high-speed rotating parts, and this is specially termed as bird ingestion engine damage.
5.	Scalability of the Solution	The solution of the project "Machine learning based predictive analysis for aircraft engines" is flexible enough to meet the clients or customer requirements.

Feasibility of the project:

i)Economic feasibility: Since the project mainly focuses on software using sensor and no complicated hardware is required. Thus, the overall cost doesn't get too high.

ii)Technical feasibility: Python, flask and many machine learning algorithms are used to build the project and is used to achieve the desired result for the proposed model.

iii)Operational feasibility: The proposed solution solves the problem by well predicting the failure of engine in prior stages because of the frequent and periodic testing phases.

Business Model (Revenue Model):