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

Team ID	PNT2022TMID37298
Project Name	Project – Machine Learning Based Predictive Analytics for Aircraft Engine

Technical Architecture:

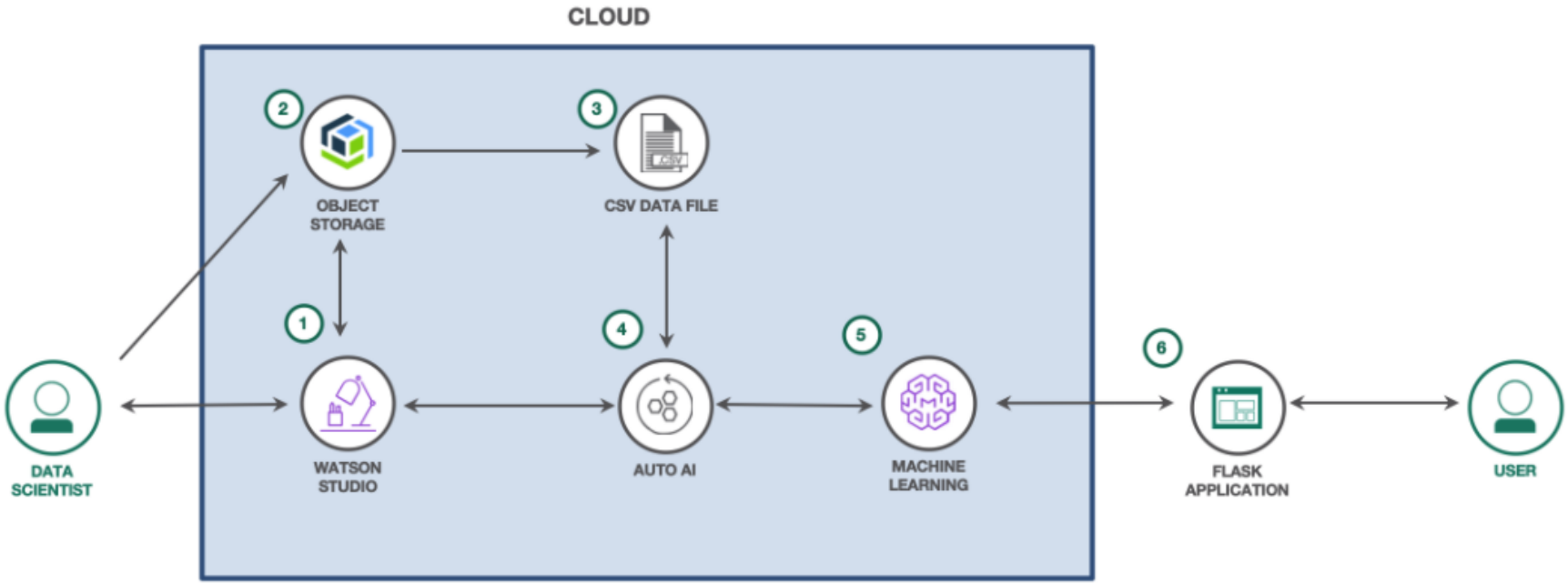

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	How user interacts with application e.g. Web UI, Mobile App, Chatbot etc.	HTML, CSS, JavaScript, Flask
2.	Application Building	Logic for a process in the application	Python
3.	Data Processing	It includes the conversion of raw data to machine-readable form, flow of data through the CPU and memory to output devices, and formatting or transformation of output.	Python
4.	Cloud Database	Database Service on Cloud	IBM Cloud
5.	Machine Learning Model	A machine learning model is a file that has been trained to recognize certain types of patterns. You train a model over a set of data, providing it an algorithm that it can use to reason over and learn from those data.	IBM Watson
6.	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.	IBM Watson Studio
7.	Infrastructure (Cloud)	Application Deployment on Cloud.	IBM Cloud

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Open-source frameworks used	Python Flask
2.	Security Implementations	Security / access controls implemented.	Encryptions, and SecML
3.	Scalable Architecture	The scalability of architecture (3 – tier)	Web Server- HTML, CSS, Javascript Application Server- Python Flask Database Server- IBM Cloud
4.	Availability	The availability of application	IBM Cloud Hosting
5.	Performance	Design consideration for the performance of the application.	IBM Load Balancer