

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

Date	03 November 2022
Team ID	PNT2022TMID29843
Project Name	Developing a Flight Delay Prediction Model using Machine Learning
Maximum Marks	4 Marks

Technical Architecture:

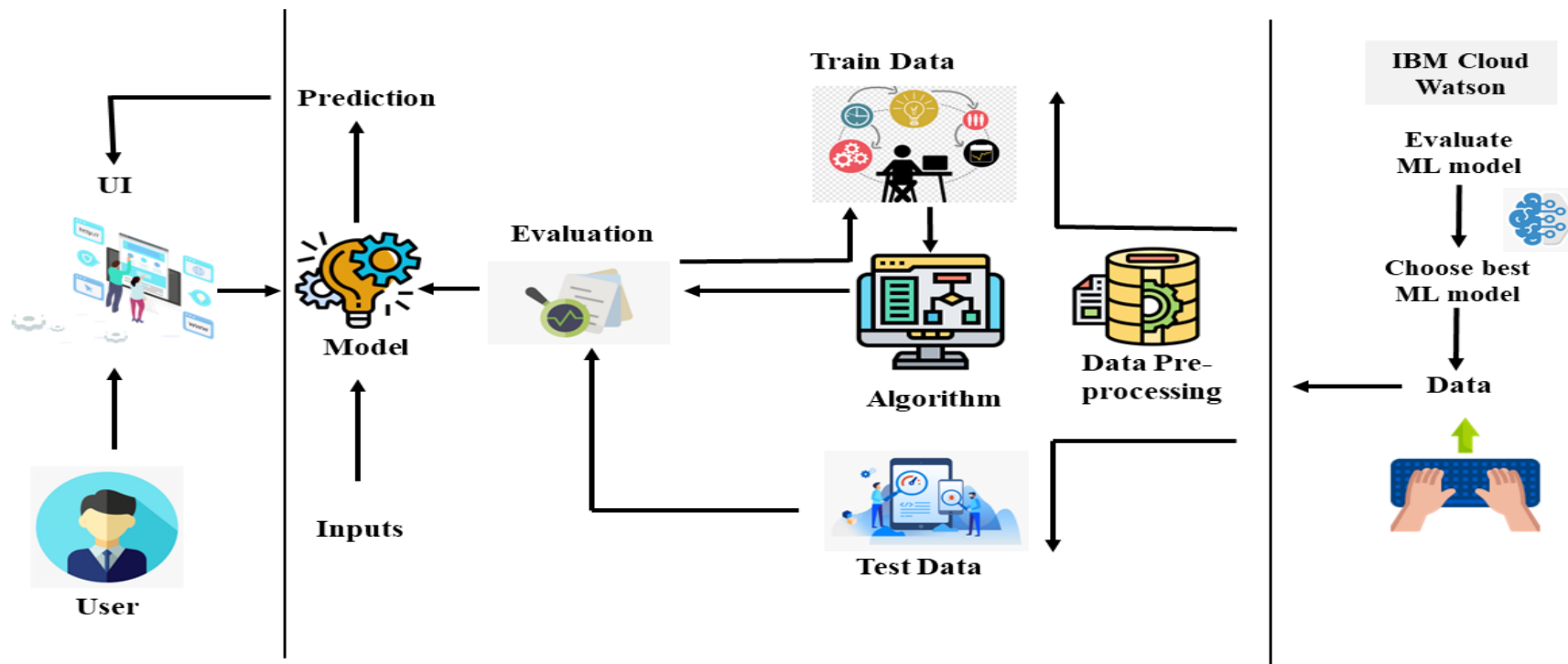


Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	How user interacts with application web UI.	HTML, CSS.
2.	Application Logic-1	Develop, train and finding best ML model	Python
3.	Application Logic-2	Deploy best ML model	IBM Watson
4.	Application Logic-3	Integrating ML model with flask	IBM Watson, Flask, Python
5.	Database	Structured data	MySQL
6.	Cloud Database	Database Service on Cloud	IBM DB2, IBM Cloudant etc.
7.	File Storage	File storage requirements	IBM Block Storage or Other Storage Service or Local Filesystem
8.	External API-1	Purpose of External API used in the application	IBM Weather API, etc.
9.	Machine Learning Model	Purpose of Machine Learning Model is to predict the delay.	Object Recognition Model, Decision tree classifier.
10.	Infrastructure (Server / Cloud)	Application Deployment on Cloud	Cloud Foundry, Kubernetes.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Flask, scipy, Jupiter Notebook	microframework
2.	Scalable Architecture	3 – tier, Micro-services	Relational database, cloud, GUI
3.	Availability	application distributed servers	IBM Cloud
4.	Performance	Performance of the application	IBM Watson App services