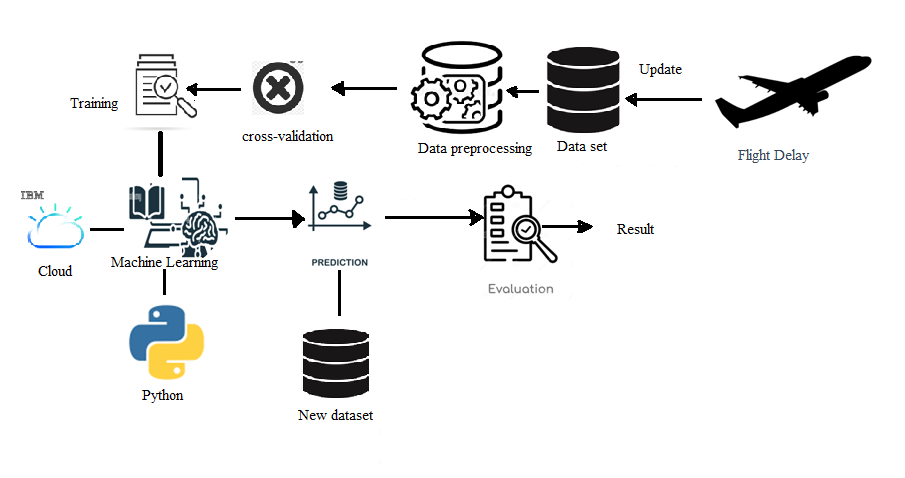
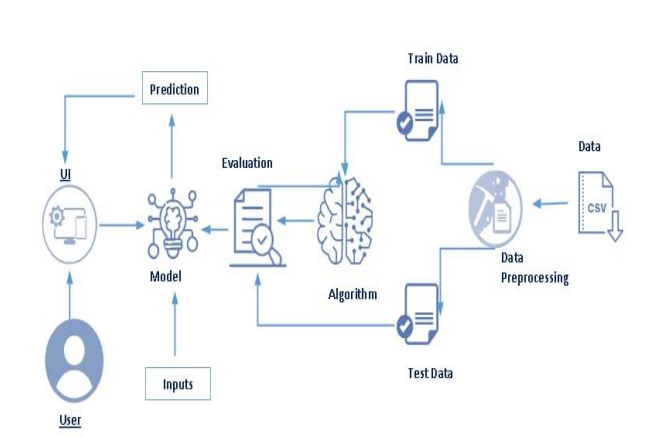
**Project Design Phase-II**

**Technology Stack (Architecture & Stack)**

|  |  |
| --- | --- |
| Date | 03October 2022 |
| Team ID | PNT2022TMID46892 |
| Project Name | Project - Developing a Flight Delay Prediction Model using Machine Learning |
| Maximum Marks | 4 Marks |

**Technical Architecture:**

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**Table-1 : Components & Technologies:**

|  |  |  |  |
| --- | --- | --- | --- |
| **S.No** | **Component** | **Description** | **Technology** |
|  | User Interface | How user interacts with application e.g.  Web UI, Mobile App, Chatbot etc. | Python-Flask |
|  | Application Logic-1 | Logic for a process in the application | Python |
|  | Application Logic-2 | Logic for a process in the application | IBM Watson STT service |
|  | Application Logic-3 | Logic for a process in the application | IBM Watson Assistant |
|  | Database | Data Type, Configurations etc. | MySQL |
|  | Cloud Database | Database Service on Cloud | IBM DB2 |
|  | File Storage | File storage requirements | IBM Block Storage |
|  | External API-1 | Purpose of External API used in the application | IBM Weather API |
|  | External API-2 | Purpose of External API used in the application | Flight Confirmation API |
|  | Machine Learning Model | Purpose of Machine Learning Model | Evaluation and Prediction Model |
|  | Infrastructure (Server / Cloud) | Application Deployment | IBM cloud |

**Table-2: Application Characteristics:**

| **S.No** | **Characteristics** | **Description** | **Technology** |
| --- | --- | --- | --- |
|  | Open-Source Frameworks | List the open-source frameworks used | Python-Flask |
|  | Security Implementations | List all the security / access controls implemented, use of firewalls etc. | Encryptions, IAM Controls |
|  | Scalable Architecture | Justify the scalability of architecture (3 – tier, Micro-services) | Python |
|  | Availability | Justify the availability of application (e.g. use of load balancers, distributed servers etc.) | IBM Cloud |
|  | Performance | Design consideration for the performance of the application (number of requests per sec, use of Cache, use of CDN’s) etc. | Python |