**Project Design Phase-II**

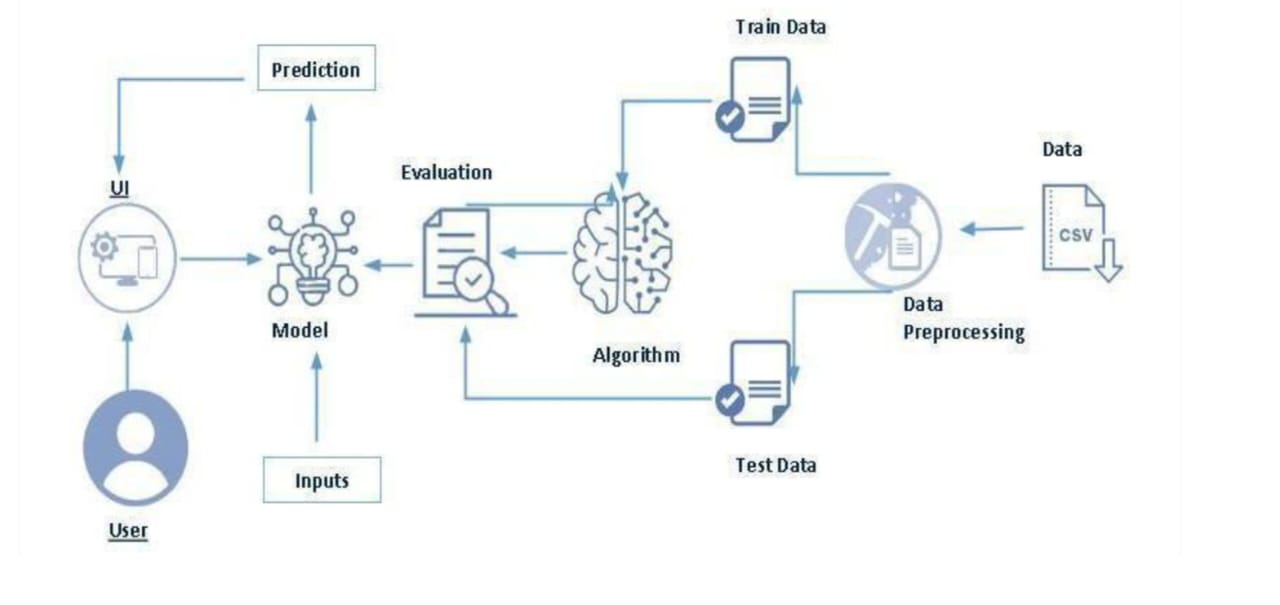
**Technology Stack (Architecture & Stack)**

|  |  |
| --- | --- |
| Date | 19 MAY 2023 |
| Team ID | NM2023TMID13133 |
| Project Name | Project - xxx |

**Technical Architecture:**

The Deliverable shall include the architectural diagram as below and the information as per the table1 & table 2

**Example:**

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Guidelines:

Include all the processes (As an application logic / Technology Block)

Provide infrastructural demarcation (Local / Cloud)

Indicate external interfaces (third party API’s etc.)

Indicate Data Storage components / services

Indicate interface to machine learning models (if applicable)

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

|  |  |  |  |
| --- | --- | --- | --- |
| **S.No** | **Component** | **Description** | **Technology** |
|  | User Interface | How user interacts with application e.g.  Web UI, Mobile App, Chatbot etc. | HTML, CSS, JavaScript / Angular Js / React Js ,Java etc. |
|  | Application Logic-1 | Logic for a process in the application- To design the web page | Java / 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, NoSQL, MongoDB, etc. |
|  | Cloud Database | Database Service on Cloud | IBM DB2, IBM Cloudant etc. |
|  | File Storage | File storage requirements- For storing the database | IBM Block Storage or Other Storage Service or Local Filesystem |
|  | External API-1 | Purpose of External API used in the application-To train the model | IBM Weather API, etc. |
|  | External API-2 | Purpose of External API used in the application- To test the model | Aadhar API, etc. |
|  | Machine Learning Model | Purpose of Machine Learning Model-Analyzing the structured and Unstructured data | Object Recognition Model, etc. |
|  | Infrastructure (Server / Cloud) | Application Deployment on Local System / Cloud  Local Server Configuration:  Cloud Server Configuration : | Local, Cloud Foundry, Kubernetes, etc. |

**Table-2: Application Characteristics:**

| **S.No** | **Characteristics** | **Description** | **Technology** |
| --- | --- | --- | --- |
|  | Open-Source Frameworks | List the open-source frameworks used | Technology of Opensource framework- Django, Angular, Vue.js |
|  | Security Implementations | List all the security / access controls implemented, use of firewalls etc.:  When the fraud / Scam detected the whole system will be locked | SHA-256, Encryptions, IAM Controls, OWASP etc. |
|  | Scalable Architecture | Justify the scalability of architecture (3 – tier, Micro-services) | Technology used-3 tier architecture |
|  | Availability | Justify the availability of application (e.g. use of load balancers, distributed servers etc.)- For proper analyzing of data | Technology used-Load balancers, Security groups |
|  | Performance | Design consideration for the performance of the application (number of requests per sec, use of Cache, use of CDN’s) etc. | Technology used-CDN |

**References:**

[**https://c4model.com/**](https://c4model.com/)

[**https://developer.ibm.com/patterns/online-order-processing-system-during-pandemic/**](https://developer.ibm.com/patterns/online-order-processing-system-during-pandemic/)

[**https://www.ibm.com/cloud/architecture**](https://www.ibm.com/cloud/architecture)

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[**https://medium.com/the-internal-startup/how-to-draw-useful-technical-architecture-diagrams-2d20c9fda90d**](https://medium.com/the-internal-startup/how-to-draw-useful-technical-architecture-diagrams-2d20c9fda90d)