**Project Design Phase-II**

**Technology Stack (Architecture & Stack)**

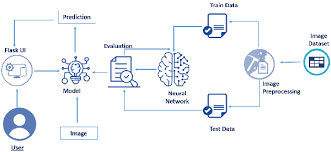
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| --- | --- |
| Date | 03October 2022 |
| Team ID | PNT202245340 |
| Project Name | Project – Real Time Communication System Powered By AI for Specially Abled. |
| Maximum Marks | 4 Marks |

**Technical Architecture:**

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

**Example: Order processing during pandemics for offline mode**

**Reference:** [**https://developer.ibm.com/patterns/ai-powered-backend-system-for-order-processing-during-pandemics/**](https://developer.ibm.com/patterns/ai-powered-backend-system-for-order-processing-during-pandemics/)

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

|  |  |  |  |
| --- | --- | --- | --- |
| **S.No** | **Component** | **Description** | **Technology** |
|  | User Interface | Web UI | HTML, CSS, JavaScript |
|  | Application Logic-1 | Import all the library files required for data pre-processing | Python |
|  | Application Logic-2 | Build the CNN model | Python |
|  | Application Logic-3 | Login into Jupiter notebook | Online or application download |
|  | Database | Load and store the data set and code | System storage |
|  | Cloud Database | Database Service on cloud | IBM cloud |
|  | File Storage | File storage requirements | IBM Block Storage or Other Storage Service or Local Filesystem |
|  | Machine Learning Model | Used to analyze visual images, image processing, video capture and analysis including features like face detection and hand sign detection. | CNN, Anaconda |
|  | Infrastructure (Server / Cloud) | Train the dataset and model using IBM cloud. | IBM cloud. |

**Table-2: Application Characteristics:**

| **S.No** | **Characteristics** | **Description** | **Technology** |
| --- | --- | --- | --- |
|  | Open-Source Frameworks | Application development , data pre-processing | Pycharm , anaconda navigator |
|  | Security Implementations | Produces an translation output when a speech or sign language is given as an output. | Anaconda |
|  | Scalable Architecture | Easy to use Can be able to respond quickly. Able to produce absolute translation. Should consume less data. | Anaconda |
|  | Availability | Nowadays Deaf Mute Communication Interpretor, under wearable communication method, there are Glove based system, keypad method and Handicom Touchscreen. | Artificial Intelligence |
|  | Performance | Rapid conversion from sign language to text or text to sign language. | CNN Model |

**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)

[**https://aws.amazon.com/architecture**](https://aws.amazon.com/architecture)

[**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)