Project Design Phase-II

Technology Stack (Architecture & Stack)

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| Date | 26 October 2022 |
| Team ID | Team-591213 |
| Project Name | Visualizing and Predicting Heart Diseases with an Interactive Dash Board |
| Maximum Marks | 4 Marks |

Technical Architecture:

The Deliverable shall include the architectural diagram as below and the information as per the table1 & table2

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|  | |  | | --- | | Guidelines:   1. Include all the processes (As an application logic / Technology Block) 2. Provide infrastructural demarcation (Local / Cloud) 3. Indicate external interfaces (third party API’s etc.) 4. Indicate Data Storage components / services 5. Indicate interface to machine learning models (if applicable) | |

Table-1 : Components & Technologies:

|  |  |  |  |
| --- | --- | --- | --- |
| S.No | Characteristics | Description | Technology |
| 1. | Open-Source Frameworks | List the open-source frameworks used | Technology of Opensource framework |
| 2. | Security Implementations | List all the security / access controls implemented, use of firewalls etc. | Encryptions, IAM Controls ,etc. |
| 3. | Scalable Architecture | Justify the scalability of architecture (3 – tier, Micro-services) | Technology used |

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| --- | --- | --- | --- |
| S.No | Component | Description | Technology |
| 1. | User Interface | How user interacts with application e.g. Web UI, Mobile App, Chatbot etc. | HTML, CSS, JavaScript / Angular Js / React Js etc. |
| 2. | Application Logic-1 | Logic for a process in the application | Python |
| 3. | Application Logic-2 | Logic for a process in the application | IBM Watson STT service |
| 4. | Application Logic-3 | Logic for a process in the application | IBM Watson Assistant |
| 5. | Database | Data Type, Configurations etc. | MySQL, NoSQL, etc. |
| 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 diseaseAPI, etc. |
| 9. | External API-2 | Purpose of External API used in the application | Medical API, etc. |
| 10. | Machine Learning Model | Purpose of Machine Learning Model | output of multiple decision trees to reach a single result. |
| 11. | Infrastructure (Server / Cloud) | Application Deployment on Local System / Cloud Local Server Configuration:  Cloud Server Configuration : | Local |

Table-2: Application Characteristics:

|  |  |  |  |
| --- | --- | --- | --- |
| S.No | Characteristics | Description | Technology |
| 4. | Availability | Justify the availability of application (e.g. use of load balancers, distributed servers etc.) | Technology used |
| 5. | Performance | Design consideration for the performance of the application (number of requests per sec, use of Cache, use of CDN’s) etc. | Technology used |

References:

https://c4model.com/ https://developer.ibm.com/patterns/online-order-processing-system-during-pandemic/ https://www.ibm.com/cloud/architecture https://aws.amazon.com/architecture https://medium.com/the-internal-startup/how-to-draw-useful-technical-architecture-diagrams-2d20c9fda90d