**Project Design Phase-II**

**Technology Stack (Architecture & Stack)**

|  |  |
| --- | --- |
| Date | 03 October 2022 |
| Team ID | PNT2022TMIDxxxxxx |
| Project Name | Project - xxx |
| Maximum Marks | 4 Marks |

**Technical Architecture:**

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

**Example: Child safety using wearable devices**



Guidelines:

* Include all the processes like sensors, gps, alarm buzzer etc
* Temperature sensor senses the temperature of the child
* Indicate external interfaces (Arduino controller)
* At the same time gps also track the location and sends to Arduino
* This makes an alarm buzzer to ring indicates the child is in danger

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

|  |  |  |  |
| --- | --- | --- | --- |
| **S.No** | **Component** | **Description** | **Technology** |
| 1. | User Interface | How user interacts with application e.g. Sensors, processing power, software etc. | Temperature sensor, ultrasonic sensor, Arduino controller, c programming etc |
| 2. | Application Logic-1 | Logic for a process in the safety application | Assets acquistion. |
| 3. | Application Logic-2 | Logic for a process in the safety application | Sensors like flex sensor, temperature sensors |
| 4. | Application Logic-3 | Logic for a process in the safety application | GSM,GPS,buzzer |
| 5. | Database | Data Type, Configurations etc. | MySQL, NoSQL, etc. |
| 6. | Cloud Database | Database Service on Cloud | IBM DB2, websocket communications etc. |
| 7. | File Storage | File storage requirements | IBM Block Storage or Other Storage Service or Local File system |
| 8. | External API-1 | Purpose of External API used in the application | IBM Weather API, etc. |
| 9. | External API-2 | Purpose of External API used in the application | JSON and Xml etc. |
| 10. | Machine Learning Model | Purpose of Machine Learning Model | Object Recognition Model, etc. |
| 11. | 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** |
| 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. | e.g. SHA-256, Encryptions, IAM Controls, OWASP etc. |
| 3. | Scalable Architecture | Justify the scalability of architecture (3 – tier, Micro-services) | Technology used |
| **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 |