**Project Design Phase-II**

**Technology Stack (Architecture & Stack)**

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| Date | 06 May 2023 |
| Team ID | NMIoT05EN |
| Project Name | IOT Based Street Quality Identification System |

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

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| --- | --- | --- | --- |
| **S.No** | **Component** | **Description** | **Technology** |
|  | User Interface | Create an efficient and smart services delivery platform for public and municipal workers. | HTML, CSS, JavaScript / Angular Js / React Js etc. |
|  | Application Logic-1 | To detect location and this data is used to detect the exact location of damage. | Java / Python |
|  | Application Logic-2 | To receive data’s related to street condition. | IBM Watson STT service |
|  | Application Logic-3 | Accidents are a major concern in many metropolitan cities .These accidents are majorly due to poorly maintained streets .With the help of IOT we can detect the damage and repair it. | IBM Watson Assistant |
|  | Database | Global project to aggregate data of street quality management from around the world. | MySQL, NoSQL, etc. |
|  | Cloud Database | The SQUID communicates information on road conditions. | IBM DB2, IBM Cloudant etc. |
|  | File Storage | File storage requirements are used . | IBM Block Storage or Other Storage Service or Local Filesystem |
|  | External API-1 | The API handles request routing, authentication, authorization and implements security policies. | IBM Weather API, etc. |
|  | Infrastructure (Server / Cloud) | Application Deployment on Cloud. | Local, Cloud Foundry, Kubernetes, etc. |

**Table-2: Application Characteristics:**

| **S.No** | **Characteristics** | **Description** | **Technology** |
| --- | --- | --- | --- |
|  | Open-Source Frameworks | Street quality identification is a process of identifying the cracks , potholes on the streets .By identifying the quality of the streets we can reduce the accidents that are occurring. | Technology of Open source frame working using PHP. |
|  | Security Implementations | The system should be designed with security in mind, with appropriate measures in place to protect against unauthorized access or data breaches. | e.g. SHA-256, Encryptions, IAM Controls, OWASP etc. |
|  | Scalable Architecture | The system should be able to handle large volumes of data, as well as be capable of handling multiple simultaneous users or requests. | Technology used IOT. |
|  | Availability | Similar products are available in the market | Technology used IOT devices |
|  | Performance | The street quality should meet the performance requirements in terms of smoothness, evenness, and consistency of the pavement surface, including the absence of potholes, cracks, or other defects that could cause damage to vehicles or pose a safety risk to pedestrians. NFR-5 Availability Similar products are available. | Technology used IOT |