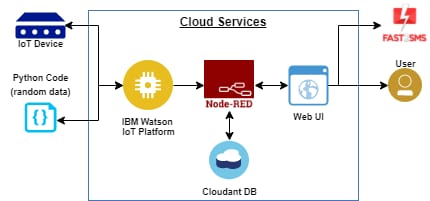
**Project Design Phase-II**

**Technology Stack (Architecture & Stack)**

|  |  |
| --- | --- |
| Date | 22 October 2022 |
| Team ID | PNT2022TMID51722 |
| Project Name | Project – Smart Solutions for Railways |
| Maximum Marks | 4 Marks |

**Technical Architecture:**

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**Table-1**

**Components & Technologies:**

|  |  |  |  |
| --- | --- | --- | --- |
| **S.No** | **Component** | **Description** | **Technology** |
|  | User Interface | User can login and book their ticket through the website based on the availability of the seats. | HTML, CSS, JavaScript |
|  | Cloud services | Requirements filled by the passenger is stored in the cloud database. | Python |
|  | GPS tracking | Live Location details shared through the code to share the location in the website | IBM Watson Service |
|  | External API-1 | Used for rail schedule, ticketing and travel documents generation, cancellation. | Sabre API |
|  | External API-2 | Used for combining carriers and ticket types, Multilanguage & currency support. | Trainline B2B API |
|  | Data Processing | Ticket is verified with the unique ID generated with the cloudant DB. | Python , IBM cloud |

**Table-2**

**Application Characteristics:**

| **S.No** | **Characteristics** | **Description** | **Technology** |
| --- | --- | --- | --- |
|  | Open-Source Frameworks | CSS, Backend framework | Python, IBM cloudant DB |
|  | Security Implementations | Data entered are encrypted, Continuous Location Tracking | Python, Cloud service |
|  | Scalable Architecture | The scanner and the codes written are highly scalable where any implementation can be done anytime needed | Python |
|  | Availability | Any time available system. The ticket can be verified by the ticket collector from anywhere | IBM Load Balancer |
|  | Performance | Though the details are get stored in the cloud the system crash will not affect the data. The data can be retrieved from anywhere with a scanner. And the GPS states the exact location of the train. | Distributed Services,GPS Tracker |