

|               |                             |
|---------------|-----------------------------|
| Date          | 15 October 2022             |
| Team ID       | PNT2022TMID48972            |
| Project Name  | Smart Solution for Railways |
| Maximum Marks | 4 Marks                     |
|               |                             |

### Technical Architecture:

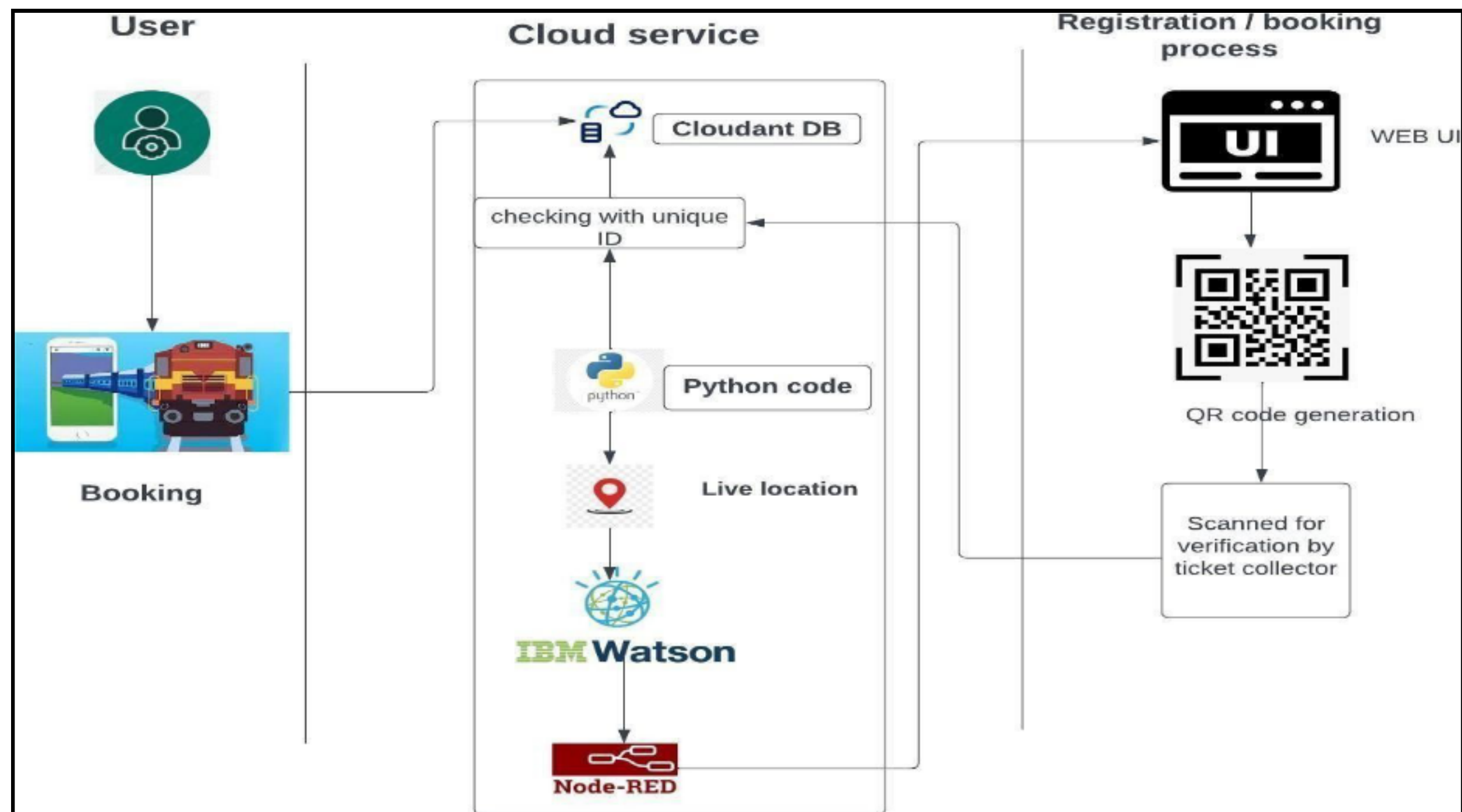


Table-1 : Components & Technologies:

| S.N<br>o | Component       | Description  | Technology            |
|----------|-----------------|--|-----------------------|
| 1.       | Web UI          | User can login and book their ticket through the website based on the availability of the seats. | HTML, CSS, JavaScript |
| 2.       | Cloud Services  | Requirements filled by the passenger is stored in the cloud database.                            | Python                |
| 3.       | GPSTracking     | Live Location details shared through the code to share the location in the website               | IBM Watson Service    |
| 4.       | External API-1  | Used for rail schedule, ticketing and travel documents generation, cancellation.                 | Sabre API             |
| 5.       | External API-2  | Used for combining carriers and ticket types, Multilanguage & currency support.                  | Trainline B2B API     |
| 6.       | Data Processing | Ticket is verified with the unique ID generated with the cloudland DB                            | Python, IBM cloud     |

Table-2: Application Characteristics:

| S.N<br>o | Characteristics          | Description   | Technology                        |
|----------|--------------------------|---|-----------------------------------|
| 1.       | Open-Source Frameworks   | CSS, Backend framework,   | Python, IBM cloudant DB           |
| 2.       | Security Implementations | Data entered are encrypted, Continuous Location Tracking  | Python, Cloud service             |
| 3.       | Scalable Architecture    | The scanner and the codes written are highly scalable where any implementation can be done anytime needed   | Python                            |
| 4.       | Availability             | Anytime available system. The ticket can be verified by the ticket collector from anywhere.   | IBM Load Balancer                 |
| 5.       | 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 |