Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	06 November 2022
Team ID	PNT2022TMID54425
Project Name	Smart Solutions for Railways
Maximum Marks	4 Marks

Technical Architecture:
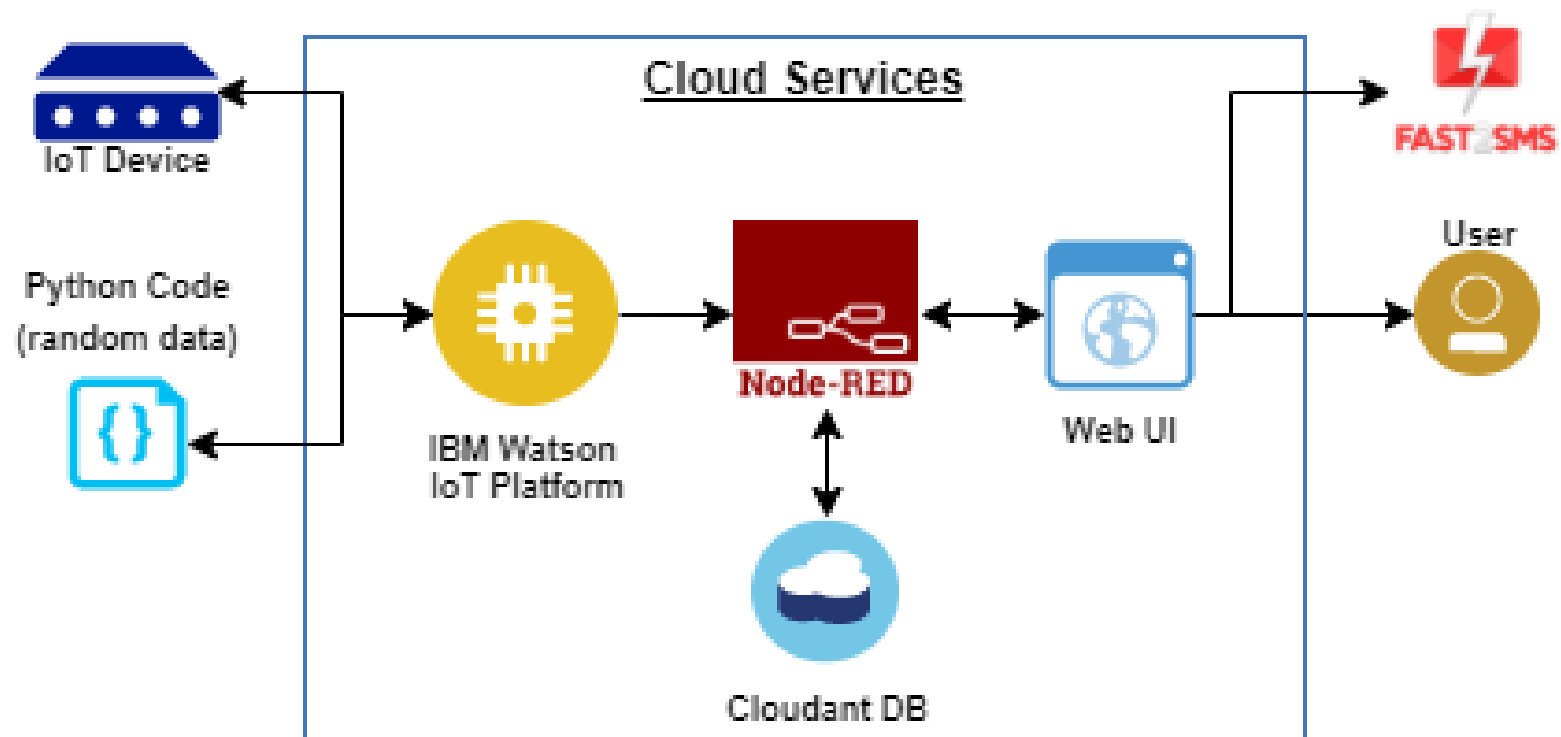
Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	How user interacts with website	HTML, CSS, JavaScript
2.	Live location tracking	Tracking live location of trains and updating it in the website.	IBM Watson IOT , IBM cloud
3.	Ticket booking and verification	Ticket is generated as a QR code which can be shown to the Ticket Examiner who scans the code using Scanner and verifies the ticket.	Django, qrcode.js
4.	Food ordering	Passengers can order food in the website and it can delivered to them .	GrubHub API
5.	Database	Data Type, Configurations etc.	Django
6.	Cloud Database	Database Service on Cloud for storing tickets and user identification.	IBM DB2, IBM Cloudant
7.	File Storage	File storage requirements	IBM Block Storage or Other Storage Service or Local Filesystem
8.	Trash segregation	Provide bounties for trash segregation	IBM Watson IoT, node.js
9.	Destination Notification	Alerts passengers just before the destination station	Geofencing API

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Open-Source Frameworks are used in our application for UI creation, QR code generation, trash segregation	Django, qrcode.js, JavaScript, node.js
2.	Security Implementations	Securing user credentials and ticket information in database	SHA-256, OWASP
3.	Scalable Architecture	To scale the cloud database for storing more tickets as users increase	IBM Auto Scale
4.	Availability	To make the application available to use 24/7	API
5.	Performance	To increase the performance of the application hosted in the high-performance instance	IBM Instance